STIC Search Report
EIC 1700

STIC Database Tracking Number: 137558

TO: Dawn Garrett **Location: REM 10A54** **Art Unit : 1774** **Nov mber 22, 2004** **Case Serial Number: 10/625096**	**From: Kathleen Fuller** **Location: EIC 1700** **REMSEN 4B28** **Phone: 571/272-2505** **Kathleen.Fuller@uspto.gov**

Search Notes

STIC Search Results Feedback Form

EIC1700

Questions about the scope or the results of the search? Contact *the EIC searcher or contact*:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1713*
- *Relevant prior art* ***found****, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art* ***not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: Nov. 10, 2004
Art Unit: 1774 Phone Number 272-1523 Serial Number: 10/625,096
Mail Box and Bldg/Room Location: Remsen 10A54 Results Format Preferred (circle) PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Metallic complexes covalently bonded to conjugated polymers and electronic devices containing such compositions
Inventors (please provide full names): Norman Herron, Howard E. Simmons, Daniel David Leclerc, Frank Uckert

Earliest Priority Filing Date: 7/30/2002

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search a polymeric material as described in claim 1 wherein
the conjugated polymer backbone is: fluorenediyls
the first-type functional groups are: beta-dicarbonyls
a first-type inert spacer groups is: alkyl and
the metal species is: Iridium

(also search other possibilities for metal species)

thank you

****

STAFF USE ONLY	Type of Search		Vendors and cost where applicable
Searcher: K. Fuller	NA Sequence (#)		STN
Searcher Phone #:	AA Sequence (#)		Dialog
Searcher Location:	Structure (#)	4	Questel/Orbit
Date Searcher Picked Up:	Bibliographic		Dr.Link
Date Completed: 11/22/04	Litigation		Lexis/Nexis
Searcher Prep & Review Time: 40	Fulltext		Sequence Systems
Clerical Prep Time:	Patent Family		WWW/Internet
Online Time: 83	Other		Other (specify)

PTO-1590 (8-01)

=> FILE REG
FILE 'REGISTRY' ENTERED AT 12:57:27 ON 22 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 21 NOV 2004 HIGHEST RN 785750-23-4
DICTIONARY FILE UPDATES: 21 NOV 2004 HIGHEST RN 785750-23-4

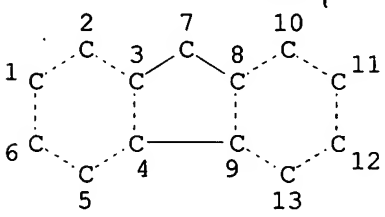
TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> D QUE L9
L4 STR 1

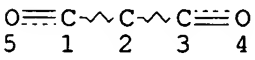


fluorene

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE
L5 STR 2



β dicarbonyl

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE
L6 SCR 2043

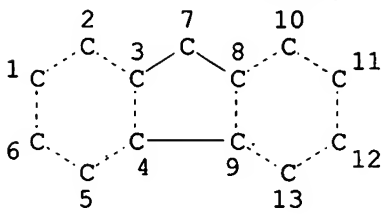
27 polymers from structure 1 and 2

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

L8 27 SEA FILE=REGISTRY SSS FUL L4 AND L5 AND L6
L9 0 SEA FILE=REGISTRY ABB=ON L8 AND 1-3/M

none of 22 structures contain a metal

=> D QUE L12
L4 STR

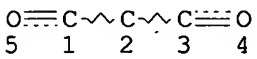


NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

402 structures from 1 and 2

STEREO ATTRIBUTES: NONE
L5 STR 2



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

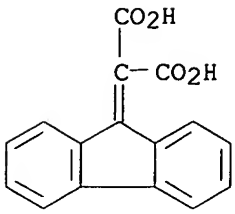
GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

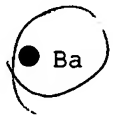
STEREO ATTRIBUTES: NONE
L11 402 SEA FILE=REGISTRY SSS FUL L4 AND L5
L12 4 SEA FILE=REGISTRY ABB=ON L11 AND 1-4/M

4 with metals

=> D SCAN L12

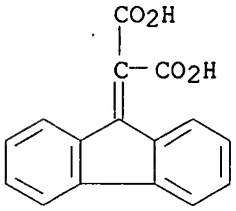
L12 4 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Propanedioic acid, 9H-fluoren-9-ylidene-, barium salt (1:1) (9CI)
MF **C16 H10 O4 . Ba**

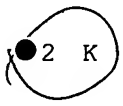




HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):3

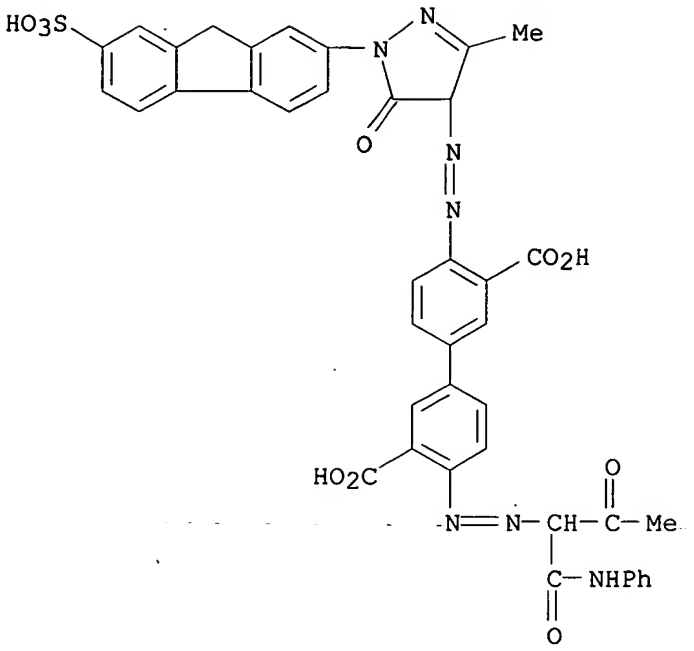
L12 4 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN Propanedioic acid, 9H-fluoren-9-ylidene-, dipotassium salt (9CI)
MF **C16 H10 O4 . 2 K**



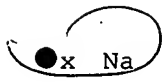


L12 4 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN [1,1'-Biphenyl]-3,3'-dicarboxylic acid, 4-[[4,5-dihydro-3-methyl-5-oxo-1-(7-sulfo-9H-fluoren-2-yl)-1H-pyrazol-4-yl]azo]-4'-[[2-oxo-1-[(phenylamino)carbonyl]propyl]azo]-, sodium salt (9CI)
MF **C41 H31 N7 O10 S . x Na**

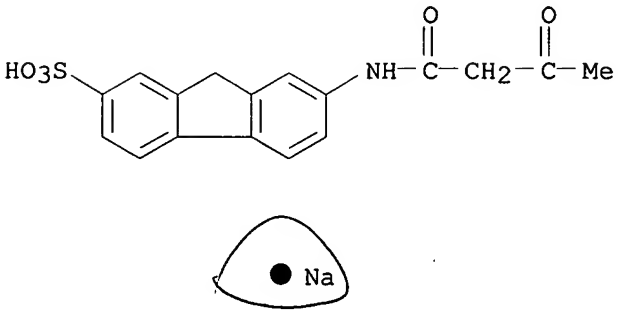
PAGE 1-A



PAGE 2-A



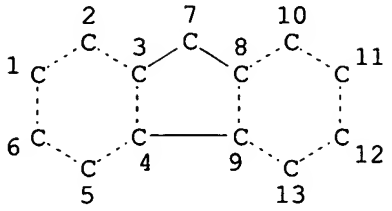
L12 4 ANSWERS REGISTRY COPYRIGHT 2004 ACS on STN
IN 9H-Fluorene-2-sulfonic acid, 7-[(1,3-dioxobutyl)amino]-, monosodium salt (9CI)
MF **C17 H15 N O5 S . Na**



ALL ANSWERS HAVE BEEN SCANNED

=> => D QUE L21

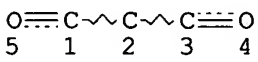
L4 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE
L5 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L6		SCR 2043
L8	27	SEA FILE=REGISTRY SSS FUL L4 AND L5 AND L6
L11	402	SEA FILE=REGISTRY SSS FUL L4 AND L5
L13	12	SEA FILE=HCAPLUS ABB=ON L8
L14	0	SEA FILE=HCAPLUS ABB=ON L13(L)(IR OR IRIDIUM OR PT OR PLATINUM OR RH OR RHENIUM OR RU OR RUTHENIUM)
L15	1	SEA FILE=HCAPLUS ABB=ON L13 AND (IR OR IRIDIUM OR PT OR PLATINUM OR RH OR RHENIUM OR RU OR RUTHENIUM)
L16	215	SEA FILE=HCAPLUS ABB=ON L11
L17	1	SEA FILE=HCAPLUS ABB=ON L13 AND (IR OR IRIDIUM OR PT OR PLATINUM OR RH OR RHENIUM OR RU OR RUTHENIUM)
L18	7	SEA FILE=HCAPLUS ABB=ON L13 AND COMPLEX?
L19	0	SEA FILE=HCAPLUS ABB=ON L13 AND COMPLEX?(3A)METAL?
L20	3	SEA FILE=HCAPLUS ABB=ON L16 AND COMPLEX?(3A)METAL?
L21	11	SEA FILE=HCAPLUS ABB=ON L14 OR L15 OR (L17 OR L18 OR L19 OR L20)

Structures linked in C4 with metals or metal complex

=> D L21 1-11 BIB ABS IND HITSTR

L21 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:307652 HCAPLUS
DN 139:57803
TI Folate-Targeted PEG as a Potential Carrier for Carboplatin Analogs. Synthesis and in Vitro Studies
AU Aronov, Olga; Horowitz, Aviva T.; Gabizon, Alberto; Gibson, Dan

CS Department of Medicinal Chemistry and Natural Products, School of Pharmacy, The Hebrew Universit of Jerusalem, Jerusalem, 91120, Israel
SO Bioconjugate Chemistry (2003), 14(3), 563-574
CODEN: BCCHES; ISSN: 1043-1802
PB American Chemical Society
DT Journal
LA English
AB Like most low mol. weight drugs, carboplatin has a short blood circulation time, which reduces tumor uptake and intracellular DNA binding. Drugs conjugated to PEG carriers benefit from prolonged blood circulation, but suffer from reduced cell permeability. In this work we attempted to develop long-circulating PEGylated carboplatin analogs with improved cell permeation abilities, by conjugating the **platinum** moiety to folate-targeted PEG carriers capable of utilizing the folate receptor-mediated endocytosis (FRME). Two bifunctional FA-PEG conjugates, FA-PEG-**Pt** and FA-PEG-FITC, were prepared, and their cell uptake, DNA binding, and cytotoxicity were studied by fluorescent microscopy, FACS, and **platinum** anal. Folate-targeted PEG conjugates enter the cells efficiently by the FRME pathway but form relatively few DNA adducts and have higher IC50 values than carboplatin and their nontargeted analogs. Nontargeted PEG-**Pt** conjugates have a lower cellular uptake but produce higher levels of DNA binding and improved cytotoxicity. Carboplatin, used as a control, has the fastest cellular uptake, but after 16 h of postincubation a large percentage of the drug is excreted from the cells. The findings of this study suggest that folate-targeted conjugates such as FA-PEG-**Pt**, may not be an optimal prodrug for the carboplatin family compds., because the conjugates or the active moieties are neutralized or blocked during the FRME process and do not manage to effectively reach the nuclear DNA.
CC 63-5 (Pharmaceuticals)
Section cross-reference(s): 1, 26
ST folate targeted PEG carboplatin carrier
IT Drug delivery systems
(carriers; folate-targeted PEG as a potential carrier for carboplatin analogs)
IT Antitumor agents
(folate-targeted PEG as a potential carrier for carboplatin analogs)
IT Polyoxyalkylenes, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(folate-targeted PEG as a potential carrier for carboplatin analogs)
IT 544676-24-6P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(folate-targeted PEG as a potential carrier for carboplatin analogs)
IT 59-30-3, Folic acid, reactions 541-16-2, Di-tert-butyl malonate 5460-29-7, N-(3-Bromopropyl)phthalimide 6066-82-6, N-Hydroxysuccinimide 15978-93-5, cis-Diamminediiodoplatinum 25322-68-3, Peg 28920-43-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(folate-targeted PEG as a potential carrier for carboplatin analogs)
IT 24991-53-5P 52410-74-9P 71025-80-4P 141221-49-0P 207613-43-2P 544429-80-3P 544429-81-4P 544429-82-5P 544429-83-6P **544429-84-7P** 544429-85-8P 544429-86-9P 544429-87-0P 544429-88-1P 544429-89-2P 544676-25-7P 544694-53-3P 544694-54-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(folate-targeted PEG as a potential carrier for carboplatin analogs)
IT 41575-94-4, Carboplatin
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

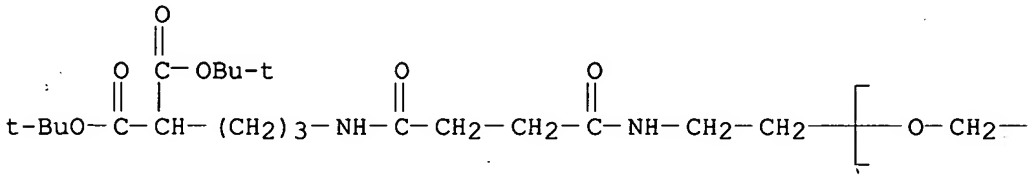
(folate-targeted PEG as a potential carrier for carboplatin analogs)

IT **544429-84-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(folate-targeted PEG as a potential carrier for carboplatin analogs)

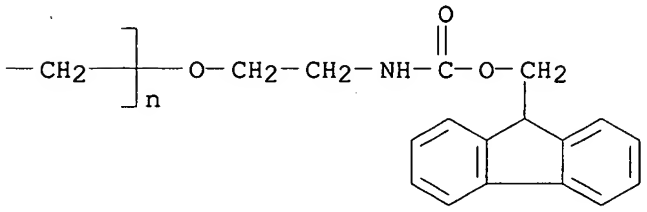
RN 544429-84-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α-[2-[[4-[[5-(1,1-dimethylethoxy)-4-[(1,1-dimethylethoxy)carbonyl]-5-oxopentyl]amino]-1,4-dioxobutyl]amino]ethyl]-ω-[2-[[(9H-fluoren-9-ylmethoxy)carbonyl]amino]ethoxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:210178 HCAPLUS
DN 136:410589
TI New fluorenyl-substituted dioxotetraamine ligands and their copper(II) complexes - crystal structure and fluorescent sensing properties in aqueous solution
AU Jiang, Li-Jian; Luo, Qin-Hui; Li, Qing-Xiang; Shen, Meng-Chang; Hu, Hong-Wen
CS State Key Laboratory of Coordination Chemistry, Coordination Chemistry Institute, Nanjing University, Nanjing, 210093, Peop. Rep. China
SO European Journal of Inorganic Chemistry (2002), (3), 664-670
CODEN: EJICFO; ISSN: 1434-1948
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
OS CASREACT 136:410589
AB Two new ligands consisting of a fluorenyl and dioxotetraaza unit, namely, 2,10-diamino-6-(9H-fluoren-9-yl)-4,8-diazaundecane-5,7-dione (L1) and 1-(9H-fluoren-9-yl)-1,4,7,10-tetraazadecane-5,6-dione (L2) along with their Cu(II) complexes were synthesized. Their properties were examined by

ES-MS and CV in aqueous solution and the crystal structure of the Cu(II) complex of L1 also was determined The recognition of the transition metal ions (Cu2+, Ni2+, etc.) by receptors was studied in aqueous solns. using pH-potentiometric and fluorometric titrns. The results show that the binding of Cu2+ or Ni2+ ion with L1 leads to quenching of the fluorescence of the fluorenyl group, but on the contrary the fluorescence of L2 is enhanced. The mechanisms are discussed.

CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 72, 73, 75

ST transition metal fluorenyl substituted dioxotetraamine ligand complex formation const; crystal structure copper fluorenyl substituted dioxotetraamine ligand complex; electrochem copper fluorenyl substituted dioxotetraamine ligand complex; fluorescence fluorenyl substituted dioxotetraamine ligand

IT Transition **metal complexes**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(diamino(fluorenyl)diazaundecanedione and (fluorenyl)tetraazadecanedione; crystal structure, formation consts., electrochem. potentials, fluorescence quenching and enhancement by transition metal ions)

IT Fluorescence
(fluorescence enhancement of (fluorenyl)tetraazadecanedione by transition metal coordination)

IT Electric potential
(of copper diamino(fluorenyl)diazaundecanedione and (fluorenyl)tetraazadecanedione complexes)

IT Crystal structure
Molecular structure
(of copper fluorenyl-substituted dioxotetraamine ligand complex)

IT Fluorescence quenching
(of diamino(fluorenyl)diazaundecanedione by copper coordination)

IT 1940-57-4P, 9-Bromofluorene 4312-20-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(for preparation of (fluorenyl)tetraazadecanedione and its transition **metal complexes**)

IT 78-90-0P, Propylenediamine **76765-79-2P**, Diethyl 2-(9H-fluoren-9-yl)malonate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(for preparation of diamino(fluorenyl)diazaundecanedione and its transition **metal complexes**)

IT 7440-02-0D, Nickel, fluorenyl-substituted dioxotetraamine ligand complex
7440-48-4D, Cobalt, fluorenyl-substituted dioxotetraamine ligand complex
7440-66-6D, Zinc, fluorenyl-substituted dioxotetraamine ligand complex
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(formation constant of)

IT 7440-50-8DP, Copper, fluorenyl-substituted dioxotetraamine ligand complex
RL: SPN (Synthetic preparation); PREP (Preparation)
(formation constant, electrochem. potentials and fluorescence quenching of diamino(fluorenyl)diazaundecanedione by copper coordination)

IT 431080-57-8D, 1-(9H-Fluoren-9-yl)-1,4,7,10-tetraazadecane-5,6-dione, transition **metal complexes**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(formation consts. and fluorescence enhancement by transition metal

coordination)

IT **390365-44-3D**, 2,10-Diamino-6-(9H-fluoren-9-yl)-4,8-diazaundecane-5,7-dione, transition **metal complexes**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(formation consts. and fluorescence quenching by transition metal coordination)

IT 431080-58-9P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)

IT 431080-59-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

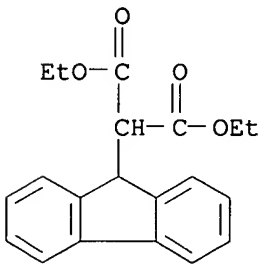
IT 431080-57-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation, reactant for preparation of copper(II) fluorenyl-substituted dioxotetraamine ligand and fluorescence enhanced by copper coordination in)

IT **390365-44-3P**, 2,10-Diamino-6-(9H-fluoren-9-yl)-4,8-diazaundecane-5,7-dione
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(preparation, reactant for preparation of copper(II) fluorenyl-substituted dioxotetraamine ligand and fluorescence quenching by copper coordination)

IT **76765-79-2P**, Diethyl 2-(9H-fluoren-9-yl)malonate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(for preparation of diamino(fluorenyl)diazaundecanedione and its transition **metal complexes**)

RN 76765-79-2 HCAPLUS

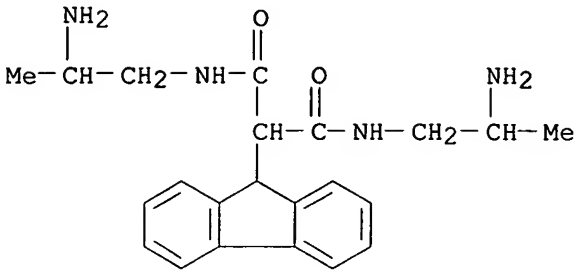
CN Propanedioic acid, 9H-fluoren-9-yl-, diethyl ester (9CI) (CA INDEX NAME)



IT **390365-44-3D**, 2,10-Diamino-6-(9H-fluoren-9-yl)-4,8-diazaundecane-5,7-dione, transition **metal complexes**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(formation consts. and fluorescence quenching by transition metal coordination)

RN 390365-44-3 HCAPLUS

CN Propanediamide, N,N'-bis(2-aminopropyl)-2-(9H-fluoren-9-yl)- (9CI) (CA INDEX NAME)



RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(prepn., reactant for prepn. of copper(II) fluorenyl-substituted dioxotetraamine ligand and fluorescence quenching by copper coordination

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:344503 HCAPLUS
DN 133:83366
TI A new fluorescent sensor-dioxotetraamine ligand appended with fluorenyl-synthesis and solution behavior
AU Jiang, Li-jian; Jiang, Xiao-qing; Shen, Meng-chang; Luo, Qin-hui; Zhang, Zheng
CS State Key Laboratory of Coordination Chemistry, Coordination Chemistry Institute, Nanjing University, Nanjing, 210093, Peop. Rep. China
SO Nanjing Daxue Xuebao, Ziran Kexue (2000), 36(2), 229-232
CODEN: NCHPAZ; ISSN: 0469-5097
PB Nanjing Daxue
DT Journal
LA English
AB A new fluorescent sensor, namely, 6-(9-fluorenyl)-1,4,8,11-tetraazaundecane-5,7-dione (L) was prepared in two steps. It reacts with transition metal salts to give ML22+ complexes (M = Cu, Ni, Co) whose stability consts. were determined The pH dependence of the fluorescence intensity and quenching is characterized as similar for the Cu and Ni complexes. Fluorescence of the Co complex is different.
CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 25, 73
ST transition metal fluorenyltetraazaundecanedione prepn stability fluorescence; quenching fluorescence transition metal fluorenyltetraazaundecanedione
IT Fluorescence
Fluorescence quenching
Oxidation potential
Stability
(of transition **metal** fluorenyltetraazaundecanedione **complexes**)
IT 105-53-3 107-15-3, Ethylenediamine, reactions 1940-57-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(for preparation of fluorenyltetraazaundecanedione and its transition **metal complexes**)
IT **76765-79-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(for preparation of transition **metal** fluorenyltetraazaundecanedion
e **complexes**)

IT **253799-42-7P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, fluorescence and reaction with transition metal salts)

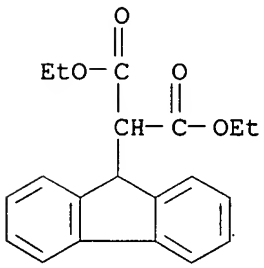
IT 7440-02-0DP, Nickel, fluorenyltetraazaundecanedione complex, preparation
7440-50-8DP, Copper, fluorenyltetraazaundecanedione complex, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation, oxidation potential, stability constant and pH dependence fluorescence and quenching of)

IT 7440-48-4DP, Cobalt, fluorenyltetraazaundecanedione complex, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation, stability constant and fluorescence of)

IT **253799-42-7DP**, transition **metal complexes**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, stability consts. and fluorescence of)

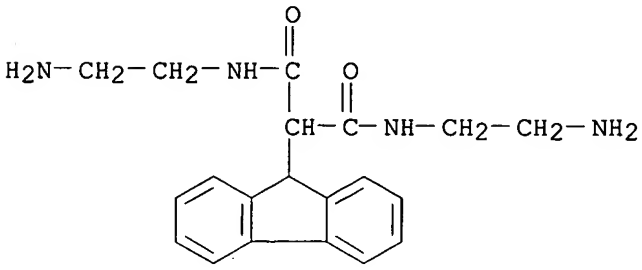
IT **76765-79-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(for preparation of transition **metal** fluorenyltetraazaundecanedion
e **complexes**)

RN 76765-79-2 HCAPLUS
CN Propanedioic acid, 9H-fluoren-9-yl-, diethyl ester (9CI) (CA INDEX NAME)

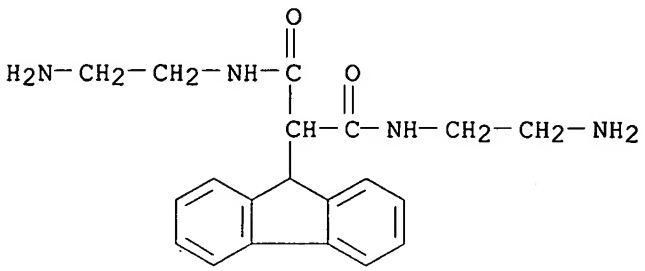


IT **253799-42-7P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, fluorescence and reaction with transition metal salts)

RN 253799-42-7 HCAPLUS
CN Propanediamide, N,N'-bis(2-aminoethyl)-2-(9H-fluoren-9-yl)- (9CI) (CA INDEX NAME)



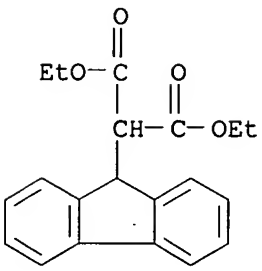
IT **253799-42-7DP**, transition **metal complexes**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, stability consts. and fluorescence of)
RN 253799-42-7 HCAPLUS
CN Propanediamide, N,N'-bis(2-aminoethyl)-2-(9H-fluoren-9-yl)- (9CI) (CA INDEX NAME)



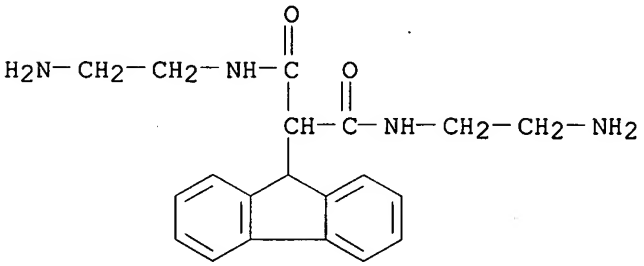
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:739408 HCAPLUS
DN 132:87292
TI A new dioxotetraamine ligand appended with fluorenyl and its copper(II) complex. Synthesis, crystal structure and solution behavior
AU Jiang, L.-J.; Luo, Q.-H.; Duan, C.-y.; Shen, M.-C.; Hu, H.-W.; Liu, Y.-J.
CS Coordination Chemistry Institute, State Key Laboratory of Coordination Chemistry, Nanjing University, Nanjing, Peop. Rep. China
SO Inorganica Chimica Acta (1999), 295(1), 48-55
CODEN: ICHAA3; ISSN: 0020-1693
PB Elsevier Science S.A.
DT Journal
LA English
AB A new dioxotetraamine ligand 6-(9-fluorenyl)-1,4,8,11-tetraazaundecane-5,7-dione (L) and its copper(II) complex were synthesized. Detailed studies were made on solution chemical of Cu(II), Ni(II) and Co(II) complexes of the ligand by pH-potentiometric and fluorometric titration as well as cyclic voltammetry. The coordination of Cu2+ and Ni2+ quenches the fluorescence of fluorenyl in the ligand through an electron transfer mechanism. The crystal structure of [Cu(H-2L)] was determined (monoclinic, space group P21/n, R = 0.0609).
CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 68, 72, 73, 74, 75
ST crystal structure copper fluorenyltetraazaundecanedionato complex; copper fluorenyltetraazaundecanedionate prepn structure electrochem fluorescence quenching; electrochem oxidn copper nickel fluorenyltetraazaundecanedionat o complex; ESR copper fluorenyltetraazaundecanedionato complex; hydrogen bond copper fluorenyltetraazaundecanedionato complex; stability const copper nickel cobalt fluorenyltetraazaundecanedionato
IT Transition **metal complexes**
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
((fluorenyl)tetraazaundecanedione; stability consts. of copper(II), nickel(II) and cobalt(II) (fluorenyl)tetraazaundecanedionato complexes)

IT Electron transfer
Fluorescence quenching
(fluorescence quenching of fluorenyl group of copper(II) (fluorenyl)tetraazaundecanedionato complex through electron transfer mechanism)
IT Fluorescence
(of (fluorenyl)tetraazaundecanedione)
IT Crystal structure
ESR (electron spin resonance)
Hydrogen bond
Molecular structure
(of copper(II) (fluorenyl)tetraazaundecanedionato complex)
IT Oxidation, electrochemical
Oxidation potential
(of copper(II) and nickel(II) (fluorenyl)tetraazaundecanedionato complexes)
IT Formation constant
(of copper(II), nickel(II) and cobalt(II) (fluorenyl)tetraazaundecanedionato complexes)
IT 105-53-3, Diethyl malonate 107-15-3, 1,2-Ethanediamine, reactions
1940-57-4, 9-Bromofluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(for preparation of copper(II) (fluorenyl)tetraazaundecanedionato complex)
IT **76765-79-2P**, Diethyl 2-(9-fluorenyl)malonate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(for preparation of copper(II) (fluorenyl)tetraazaundecanedionato complex)
IT 253799-44-9P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure)
IT **253799-42-7P**, 6-(9-Fluorenyl)-1,4,8,11-tetraazaundecane-5,7-dione
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, fluorescence and complexation with copper)
IT 253799-43-8P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(preparation, mol. structure, ESR, stability constant, electrochem. oxidation and
fluorescence quenching)
IT 253799-46-1
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(stability constant)
IT 253799-45-0
RL: FMU (Formation, unclassified); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)
(stability constant and electrochem. oxidation)
IT **76765-79-2P**, Diethyl 2-(9-fluorenyl)malonate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(for preparation of copper(II) (fluorenyl)tetraazaundecanedionato complex)
RN 76765-79-2 HCAPLUS
CN Propanedioic acid, 9H-fluoren-9-yl-, diethyl ester (9CI) (CA INDEX NAME)



IT **253799-42-7P**, 6-(9-Fluorenyl)-1,4,8,11-tetraazaundecane-5,7-dione
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, fluorescence and complexation with copper)
RN 253799-42-7 HCAPLUS
CN Propanediamide, N,N'-bis(2-aminoethyl)-2-(9H-fluoren-9-yl)- (9CI) (CA INDEX NAME)



RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1994:668400 HCAPLUS
DN 121:268400
TI Molecular dynamics of discotic charge-transfer **complexes**, dielectric spectroscopy and 2H NMR studies
AU Moeller, M.; Wendorff, J. H.; Werth, M.; Spiess, H. W.; Bengs, H.; Karthaus, O.; Ringsdorf, H.
CS Deutsches Kunststoff Institut, Darmstadt, 64289, Germany
SO Liquid Crystals (1994), 17(3), 381-95
CODEN: LICRE6; ISSN: 0267-8292
DT Journal
LA English
AB Using a combination of solid state 2H NMR spectroscopy on selectively deuterated samples and dielec. spectroscopy, the mol. dynamics of discotic charge-transfer (CT) **complexes** were studied. These **complexes** show particular thermodn. and flow properties. Considered were mixts. of low molar mass donors and acceptors, low molar mass donors with main chain acceptor polymers and covalently linked donor-acceptor twins with different lengths of the spacer. A main result is that correlated rotational motions of discotic mols. or groups about the columnar axis are observed in all systems except for the twin with the short spacer. This type of motion seems to be a general feature of

columnar phases. The nondiscotic acceptor which is incorporated in the columns participates in this motion. The twin possessing a long spacer displays at high temps. an addnl. process: it performs a diffusion process between the columns. A further result is that broad biphasic regions exist in CT mixts. at the transition from the discotic to the isotropic state.

CC 75-11 (Crystallography and Liquid Crystals)

ST mol dynamics discotic charge transfer mesophase

IT Liquid crystals
(discotic, NMR and dielec. spectroscopy studies of mol. dynamics of charge-transfer **complexes** of)

IT 158838-23-4
RL: PRP (Properties)
(NMR and dielec. spectroscopy studies of mol. dynamics of discotic liquid crystal charge-transfer **complex** containing)

IT 142146-99-4 142488-59-3
RL: PRP (Properties)
(NMR and dielec. spectroscopy studies of mol. dynamics of discotic liquid crystal charge-transfer **complex** of)

IT 69079-52-3 **136024-29-8** 136140-19-7
RL: PRP (Properties)
(NMR and dielec. spectroscopy studies of mol. dynamics of discotic liquid crystal charge-transfer **complex** with didecyl (trinitrofluoreneylidene)malonate)

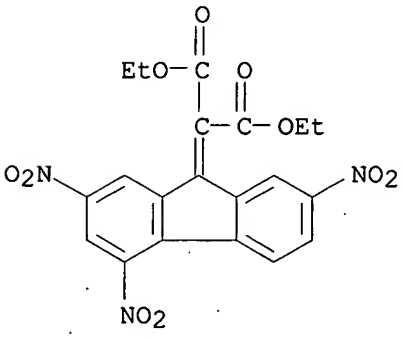
IT **136024-29-8**
RL: PRP (Properties)
(NMR and dielec. spectroscopy studies of mol. dynamics of discotic liquid crystal charge-transfer **complex** with didecyl (trinitrofluoreneylidene)malonate)

RN 136024-29-8 HCAPLUS

CN Propanedioic acid, (2,4,7-trinitro-9H-fluoren-9-ylidene)-, diethyl ester, polymer with 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 136024-28-7
CMF C20 H15 N3 O10



CM 2

CRN 629-11-8
CMF C6 H14 O2

HO—$(CH_2)_6$—OH

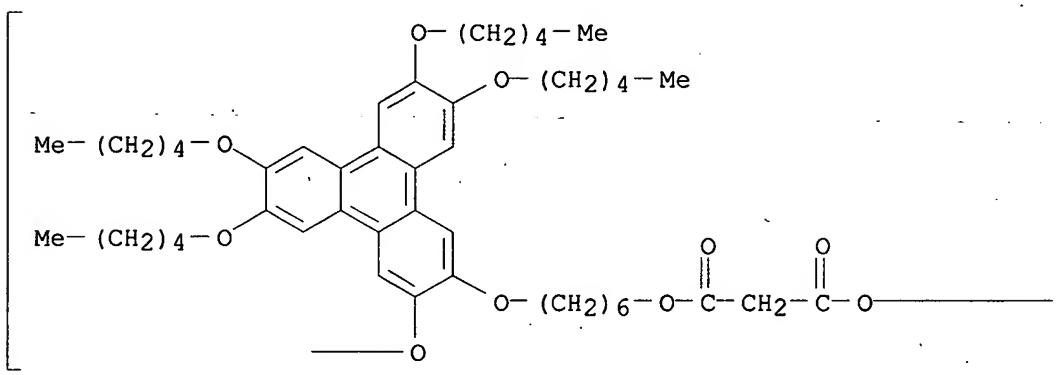
L21 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:103223 HCAPLUS
DN 118:103223
TI Packing of columns in Langmuir-Blodgett films of discotic mixtures with charge-transfer interactions
AU Tsukruk, V. V.; Wendorff, J. H.; Karthaus, O.; Ringsdorf, H.
CS Dtsch. Kunstst. Inst., Darmstadt, 6100, Germany
SO Langmuir (1993), 9(2), 614-18
CODEN: LANGD5; ISSN: 0743-7463
DT Journal
LA English
AB The structures displayed by equimolar mixts. of donor discotic liquid crystalline dihydroxy monomeric and malonate polyester compds. with the acceptor compound 2,4,7-trinitro-9-fluorenone (I) are analyzed by X-ray scattering both in the bulk state and in Langmuir-Blodgett (LB) films. The amphiphilic monomeric compound is composed of a rigid triphenylene core with 2 hydrophilic (OH-containing) and 4 hydrophobic flexible tails. Mixing of the electron-rich monomeric compound and corresponding main-chain polyester with I leads to the formation of hexagonal columnar Dho phases. An edge-on arrangement of the discotic mols. into the columns being parallel to the solid support in the donor-acceptor mixts. is formed in the corresponding LB films.
CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 75
ST monolayer film liq crystal; charge transfer liq crystal; polyester hexagonal columnar phase; discotic mixt charge transfer
IT Surface pressure
(-area isotherms, in monolayers of discotic compds., charge-transfer **complexation** effect on)
IT Surface area
(-pressure isotherms, in monolayers of discotic compds., charge-transfer **complexation** effect on)
IT Polyesters, compounds
RL: PRP (Properties)
(malonate-based, **complexes**, charge-transfer, phase state of liquid-crystalline)
IT Charge-transfer **complexes**
RL: PRP (Properties)
(of trinitrofluorenone with triphenylene diols and polyesters, liquid-crystal state of)
IT Liquid crystals
(discotic, hexagonal, of trinitrofluorenone charge-transfer **complexes** with triphenylene diols)
IT Liquid crystals, polymeric
(hexagonal columnar, of trinitrofluorenone charge-transfer **complexes** with triphenylene diol polyesters)
IT 145708-88-9 **146192-50-9** **146262-85-3**
RL: PRP (Properties)
(phase state of liquid-crystalline)
IT 138453-97-1 138476-08-1 138476-09-2
RL: PRP (Properties)
(phase state of liquid-crystalline, charge-transfer **complexation** effect on)

IT **146192-50-9 146262-85-3**
RL: PRP (Properties)
(phase state of liquid-crystalline)
RN 146192-50-9 HCAPLUS
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with poly[oxy[6,7,10,11-tetrakis(pentyloxy)-2,3-triphenylenediyl]oxy-1,6-hexanediyloxy(1,3-dioxo-1,3-propanediyl)oxy-1,6-hexanediyl] (9CI) (CA INDEX NAME)

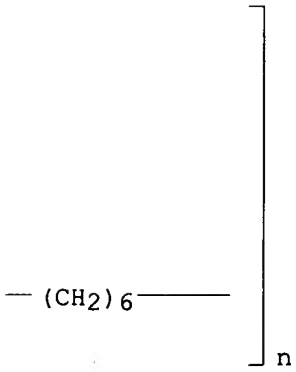
CM 1

CRN 138453-97-1
CMF (C53 H76 O10)n
CCI PMS

PAGE 1-A

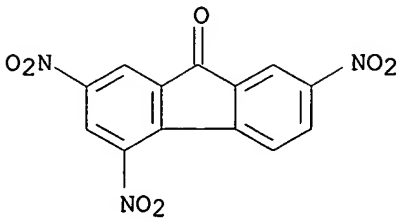


PAGE 1-B



CM 2

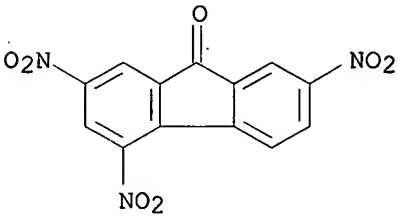
CRN 129-79-3
CMF C13 H5 N3 O7



RN 146262-85-3 HCAPLUS
CN Propanedioic acid, polymer with 6,6'-[[6,7,10,11-tetrakis(pentyloxy)-2,3-triphenylenediyl]bis(oxy)]bis[1-hexanol], compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

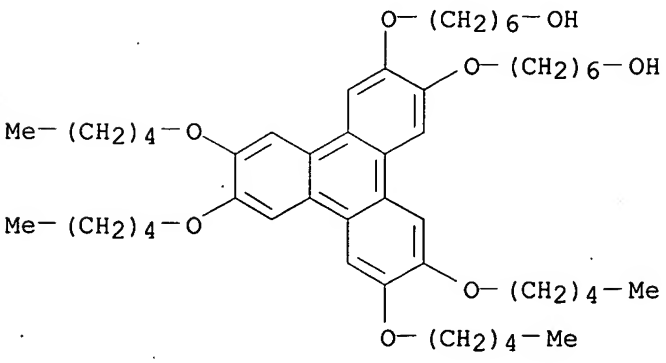


CM 2

CRN 138476-09-2
CMF (C50 H76 O8 . C3 H4 O4)x
CCI PMS

CM 3

CRN 138476-08-1
CMF C50 H76 O8



CM 4

CRN 141-82-2
CMF C3 H4 O4

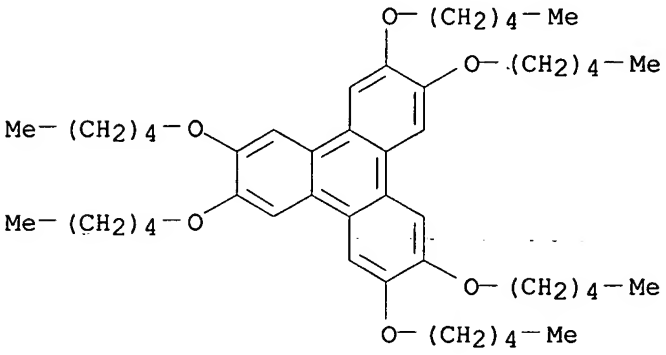
$HO_2C-CH_2-CO_2H$

L21 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1991:560249 HCAPLUS
DN 115:160249
TI Discotic charge transfer **complexes**: influence of acceptor main-chain polymers on structure and mesophase behavior of 2,3,6,7,10,11-hexapentyloxytriphenylene
AU Bengs, Holger; Renkel, Renate; Ringsdorf, Helmut; Baehr, Christoph; Ebert, Martina; Wendorff, Joachim H.
CS Inst. Org. Chem., Univ. Mainz, Mainz, D-6500, Germany
SO Makromolekulare Chemie, Rapid Communications (1991), 12(7), 439-46
CODEN: MCRCD4; ISSN: 0173-2803
DT Journal
LA English
AB Acceptor polyesters with 2,4,7-trinitro-9-fluorenone moieties within the main chain influenced the phase behavior of the discotic 2,3,6,7,10,11-hexapentyloxytriphenylene (I) without changing the phase type. The clearing temperature of the polyester-I **complexes** had a maximum value when the spacer consisted of 12 methylene groups. Both intra- and intercolumnar distances were smaller than in the pure discotic liquid crystal and independent of the main-chain spacer.
CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 75
ST polyester discotic charge transfer **complex**; pentyloxytriphenylene mesophase behavior polyester structure; nitrofluorenone contg polyester **complex**
IT Polyesters, compounds
RL: PRP (Properties)
(charge-transfer **complexes** with hexapentyloxytriphenylene, discotic, thermal and x-ray data of)
IT Glass temperature and transition
(of polyesters containing trinitrofluorenone moieties)
IT Polyesters, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of trinitrofluorenone-containing)
IT Liquid crystals
(discotic, trinitrofluorenone-containing polyester-hexapentyloxytriphenylene charge-transfer **complexes**, thermal and x-ray data of)
IT **136024-32-3 136024-33-4 136024-34-5**
136480-21-2 136480-22-3 136480-23-4
RL: PRP (Properties)
(discotic, thermal and x-ray data of)
IT **136024-29-8P 136024-30-1P 136024-31-2P**
136107-77-2P 136140-19-7P 136140-20-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)
IT **136024-32-3 136024-33-4 136024-34-5**
RL: PRP (Properties)

(discotic, thermal and x-ray data of)
RN 136024-32-3 HCAPLUS
CN Propanedioic acid, (2,4,7-trinitro-9H-fluoren-9-ylidene)-, diethyl ester, polymer with 1,6-hexanediol, compd. with 2,3,6,7,10,11-hexakis(pentyloxy)triphenylene (9CI) (CA INDEX NAME)

CM 1

CRN 69079-52-3
CMF C48 H72 O6

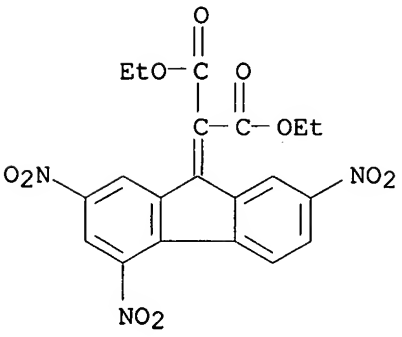


CM 2

CRN 136024-29-8
CMF (C20 H15 N3 O10 . C6 H14 O2)x
CCI PMS

CM 3

CRN 136024-28-7
CMF C20 H15 N3 O10



CM 4

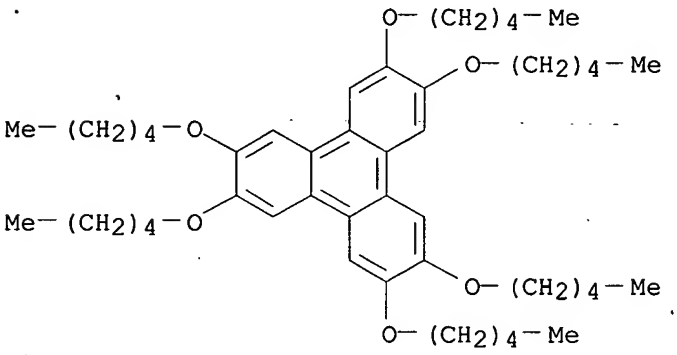
CRN 629-11-8
CMF C6 H14 O2

HO—$(CH_2)_6$—OH

RN 136024-33-4 HCAPLUS
CN Propanedioic acid, (2,4,7-trinitro-9H-fluoren-9-ylidene)-, diethyl ester, polymer with 1,12-dodecanediol, compd. with 2,3,6,7,10,11-hexakis(pentyloxy)triphenylene (9CI) (CA INDEX NAME)

CM 1

CRN 69079-52-3
CMF C48 H72 O6

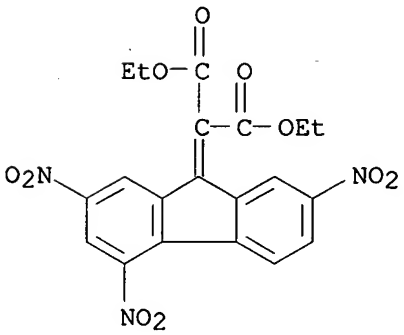


CM 2

CRN 136024-30-1
CMF (C20 H15 N3 O10 . C12 H26 O2)x
CCI PMS

CM 3

CRN 136024-28-7
CMF C20 H15 N3 O10



CM 4

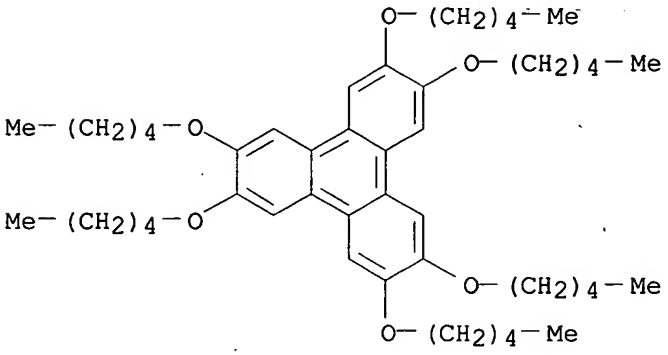
CRN 5675-51-4
CMF C12 H26 O2

HO—$(CH_2)_{12}$—OH

RN 136024-34-5 HCAPLUS
CN Propanedioic acid, (2,4,7-trinitro-9H-fluoren-9-ylidene)-, diethyl ester, polymer with 1,16-hexadecanediol, compd. with 2,3,6,7,10,11-hexakis(pentyloxy)triphenylene (9CI) (CA INDEX NAME)

CM 1

CRN 69079-52-3
CMF C48 H72 O6

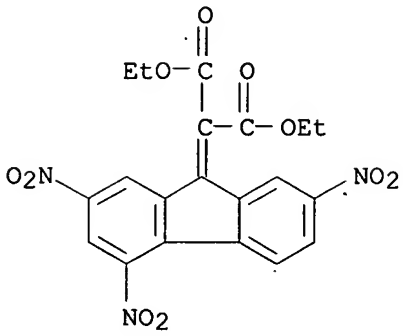


CM 2

CRN 136024-31-2
CMF (C20 H15 N3 O10 . C16 H34 O2)x
CCI PMS

CM 3

CRN 136024-28-7
CMF C20 H15 N3 O10



CM 4

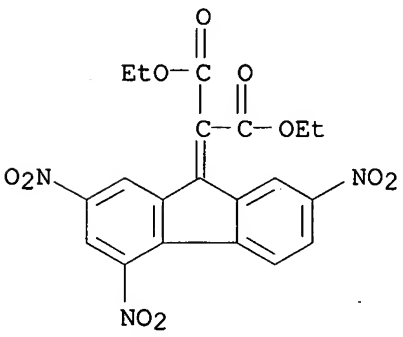
CRN 7735-42-4
CMF C16 H34 O2

$HO-(CH_2)_{16}-OH$

IT **136024-29-8P 136024-30-1P 136024-31-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)
RN 136024-29-8 HCAPLUS
CN Propanedioic acid, (2,4,7-trinitro-9H-fluoren-9-ylidene)-, diethyl ester, polymer with 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 136024-28-7
CMF C20 H15 N3 O10



CM 2

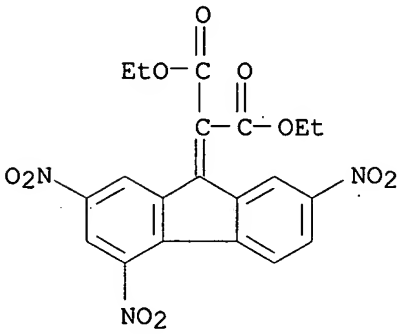
CRN 629-11-8
CMF C6 H14 O2

HO—$(CH_2)_6$—OH

RN 136024-30-1 HCAPLUS
CN Propanedioic acid, (2,4,7-trinitro-9H-fluoren-9-ylidene)-, diethyl ester, polymer with 1,12-dodecanediol (9CI) (CA INDEX NAME)

CM 1

CRN 136024-28-7
CMF C20 H15 N3 O10



CM 2

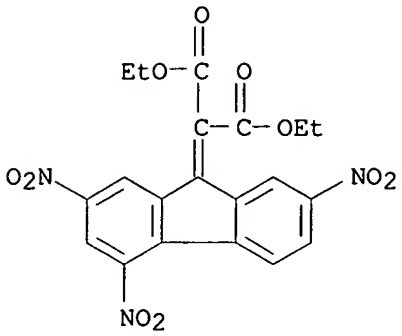
CRN 5675-51-4
CMF C12 H26 O2

HO—$(CH_2)_{12}$—OH

RN 136024-31-2 HCAPLUS
CN Propanedioic acid, (2,4,7-trinitro-9H-fluoren-9-ylidene)-, diethyl ester, polymer with 1,16-hexadecanediol (9CI) (CA INDEX NAME)

CM 1

CRN 136024-28-7
CMF C20 H15 N3 O10



CM 2

CRN 7735-42-4
CMF C16 H34 O2

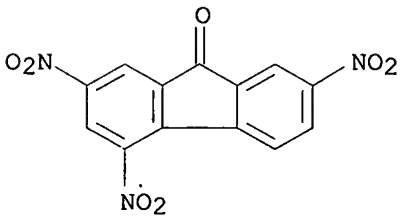
$HO-(CH_2)_{16}-OH$

L21 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:119731 HCAPLUS
DN 112:119731
TI Induction and variation of polymeric discotic liquid crystals via doping with electron acceptors
AU Ebert, M.; Ringsdorf, H.; Wendorff, H. J.; Wuestefeld, R.
CS Inst. Org. Chem., Mainz, D-6500, Fed. Rep. Ger.
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (1989), 30(2), 479-80
CODEN: ACPPAY; ISSN: 0032-3934
DT Journal
LA English
AB Non-liquid-crystalline and liquid-crystalline polymers containing disk-like electron donor groups, i.e., triphenylene groups, were treated with electron acceptors, e.g., 2,4,7-trinotrofluorenone (I), to introduce charge-transfer **complexes** and induce discotic columnar phases. Similarly discotic columnar phases were induced in incompatible polymer mixts. by addition of I to form a compatible discotic polymer blend. Mesomorphic properties such as phase type and structure or clearing temperature could be varied by choice of the polymer and the miscibility ratio.
CC 36-3 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 75
ST liq cryst polymer discotic columnar phase; polyester discotic columnar phase liq crystal; triphenylene electron donor polymer liq crystal; charge transfer **complex** discotic liq crystal; trinitrofluorene electron acceptor discotic liq crystal; blend polymer discotic columnar phase; fluorene trinitro polymer discotic columnar phase
IT Polymers, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of liquid-crystalline triphenylene group-containing, with induced discotic

columnar phases, by **complexation** with trinitrofluorene)
IT Liquid crystals
(discotic, preparation of, from triphenylene group-containing polymers, by **complexation** with trinitrofluorene)
IT Polyesters, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(triphenylene group-containing, preparation of liquid-crystalline, with induced
discotic columnar phases, by **complexation** with trinitrofluorene)
IT 122093-10-1P **122093-13-4P** 122114-30-1P **122114-33-4P**
125394-36-7P 125394-39-0P 125572-12-5P 125663-44-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, with induced discotic columnar phases)
IT **122093-13-4P 122114-33-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, with induced discotic columnar phases)
RN 122093-13-4 HCAPLUS
CN Propanedioic acid, [10-[[3,6,7,10,11-pentakis(pentyloxy)-2-triphenylenyl]oxy]decyl]-, polymer with 1,12-dodecanediol, compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

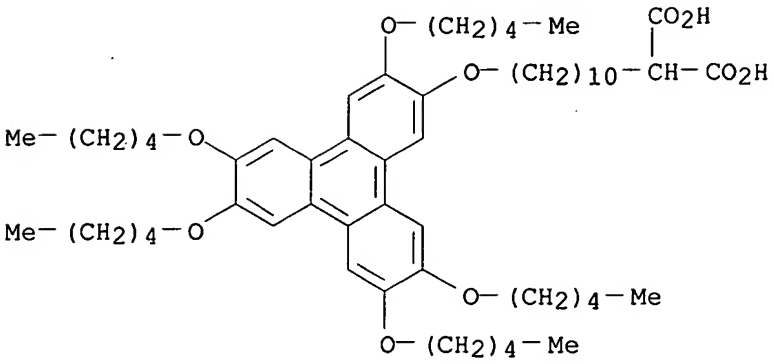


CM 2

CRN 122093-12-3
CMF (C56 H84 O10 . C12 H26 O2)x
CCI PMS

CM 3

CRN 122093-11-2
CMF C56 H84 O10



CM 4

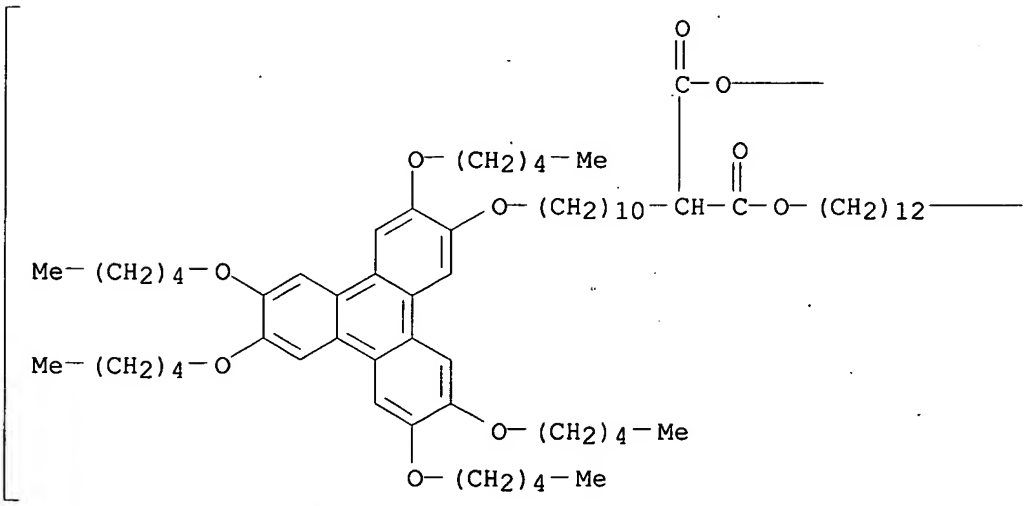
CRN 5675-51-4
CMF C12 H26 O2

RN 122114-33-4 HCAPLUS
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with poly[oxy[1,3-dioxo-2-[10-[[3,6,7,10,11-pentakis(pentyloxy)-2-triphenylenyl]oxy]decyl]-1,3-propanediyl]oxy-1,12-dodecanediyl] (9CI) (CA INDEX NAME)

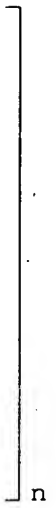
CM 1

CRN 122114-32-3
CMF (C68 H106 O10)n
CCI PMS

PAGE 1-A

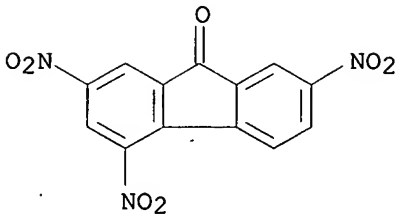


PAGE 1-B



CM 2

CRN 129-79-3
CMF C13 H5 N3 O7



L21 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:554744 HCAPLUS
DN 111:154744
TI Induction of liquid-crystal phases: discotic systems obtained by providing amorphous polymers with electron acceptors
AU Ringsdorf, Helmut; Wuestefeld, Renate; Zerta, Elfriede; Ebert, Martina; Wendorff, Joachim H.
CS Inst. Org. Chem., Univ. Mainz, Mainz, D-6500, Fed. Rep. Ger.
SO Angewandte Chemie (1989), 101(7), 934-8
CODEN: ANCEAD; ISSN: 0044-8249
DT Journal
LA German
AB Addition of 2,4,7-trinitrofluorenone or 2,4,7-trinitro-9-fluorenylidenemalononitrile electron acceptors to amorphous polyesters and acrylic polymers containing pentyloxytriphenylene groups on the side chains

induced columnar liquid crystallinity in the polymers and provided miscibility for otherwise incompatible blends.

CC 36-3 (Physical Properties of Synthetic High Polymers)

ST charge transfer liq cryst polymer; polyester discotic liq crystal; acrylic polymer columnar liq crystal; nitrofluorenone electron acceptor liq crystal

IT Charge-transfer **complexes**
RL: PRP (Properties)
(of trinitrofluorenone derivs. with polymers containing triphenylene side chain groups, induction of liquid-crystalline phase in)

IT Liquid crystals
(discotic, columnar, of charge-transfer **complexes** of trinitrofluorenone derivs. with polyesters and acrylic polymers containing triphenylene side chain groups)

IT Liquid crystals
(nematic, columnar, of blends of acrylic polymers and polyesters containing triphenylene side chain groups and trinitrofluorenone electron acceptors)

IT Polyesters, properties
RL: PRP (Properties)
(triphenylene group-containing, trinitrofluorenone charge-transfer **complexes**, formation of columnar liquid crystal phase in)

IT **122093-13-4 122114-33-4**
RL: PRP (Properties)
(blends with charge-transfer **complexes** of trinitrofluorenone with triphenylene group-containing acrylic polymers, induction of compatibility and discotic liquid crystallinity in)

IT 122093-08-7P 122093-10-1P 122114-30-1P 122114-31-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, induction of liquid-crystalline phase in)

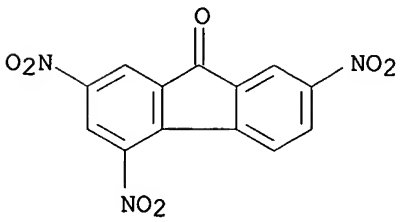
IT **122093-13-4 122114-33-4**
RL: PRP (Properties)
(blends with charge-transfer **complexes** of trinitrofluorenone with triphenylene group-containing acrylic polymers, induction of compatibility and discotic liquid crystallinity in)

RN 122093-13-4 HCAPLUS

CN Propanedioic acid, [10-[[3,6,7,10,11-pentakis(pentyloxy)-2-triphenylenyl]oxy]decyl]-, polymer with 1,12-dodecanediol, compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

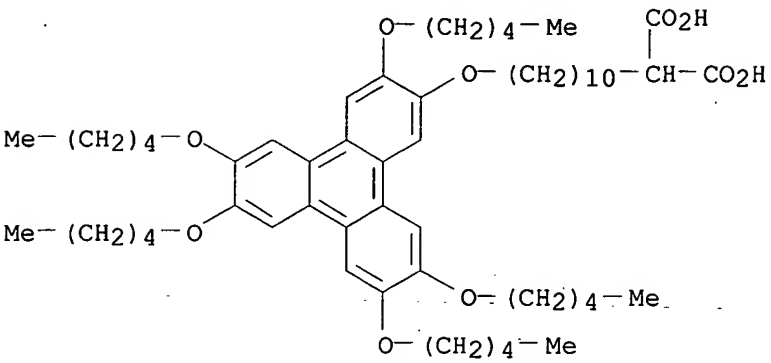


CM 2

CRN 122093-12-3
CMF (C56 H84 O10 . C12 H26 O2)x
CCI PMS

CM 3

CRN 122093-11-2
CMF C56 H84 O10



CM 4

CRN 5675-51-4
CMF C12 H26 O2

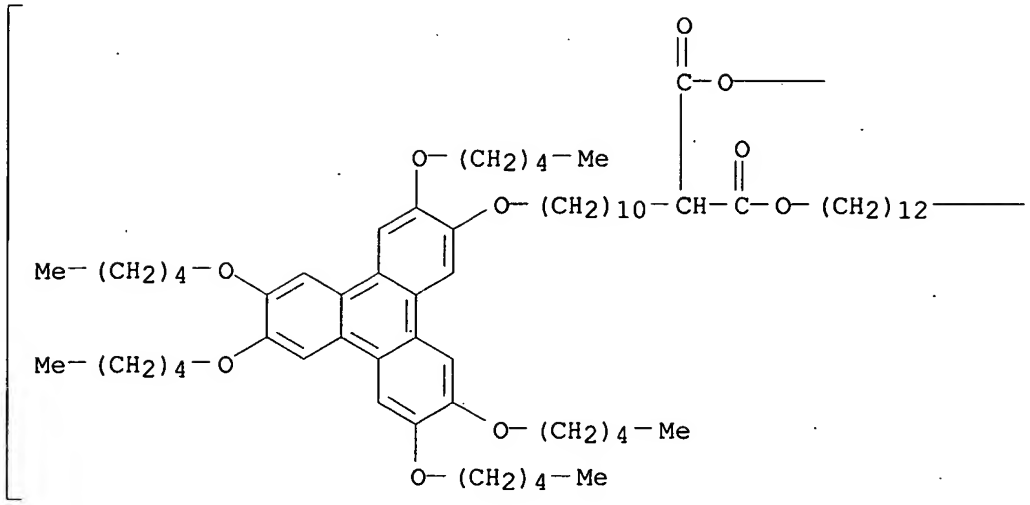
$HO-(CH_2)_{12}-OH$

RN 122114-33-4 HCAPLUS
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with poly[oxy[1,3-dioxo-2-[10-[[3,6,7,10,11-pentakis(pentyloxy)-2-triphenylenyl]oxy]decyl]-1,3-propanediyl]oxy-1,12-dodecanediyl] (9CI) (CA INDEX NAME)

CM 1

CRN 122114-32-3
CMF (C68 H106 O10)n
CCI PMS

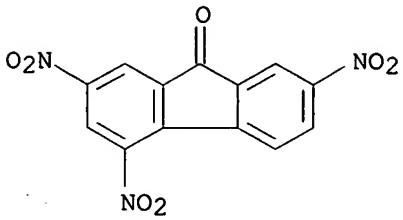
PAGE 1-A



PAGE 1-B

CM 2

CRN 129-79-3
CMF C13 H5 N3 O7

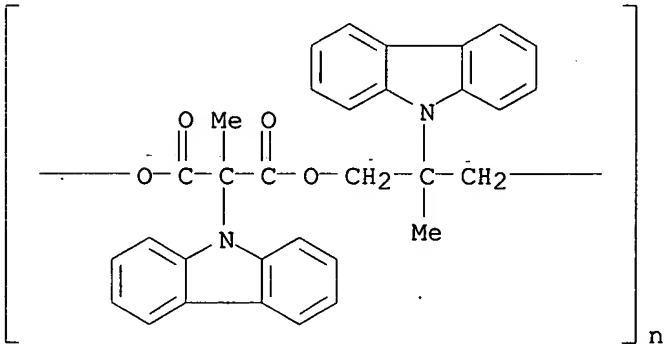


L21 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1976:593241 HCAPLUS
DN 85:193241
TI Donor-acceptor interactions in polymeric systems. IV. Variation of stability constants as a function of the saturation fraction
AU Tazuke, S.; Sato, K.; Banba, F.; Matsuyama, Y.
CS Res. Lab. Resour. Util., Tokyo Inst. Technol., Tokyo, Japan
SO Journal of Polymer Science, Polymer Letters Edition (1976), 14(11), 653-9
CODEN: JPYBAN; ISSN: 0360-6384
DT Journal
LA English
AB The relation between the stability consts. and the saturation factors for charge-transfer **complexes** formed between a polymeric donor and a monomeric acceptor was studied. The **complexes** were formed using polyesters from diols and diacids containing carbazolyl, anthracenyl, naphthyl, or dimethylaminophenyl donor groups and 2,4,7-trinitrofluorenone or 2,4,5,7-tetranitrofluorenone acceptors. As the saturation factor of the donor increased, the number of available sites for the sandwich-like **complex** formation decreased. The perturbation of adjacent donor groups enhanced the intrinsic donor strength over that of isolated donor groups.
CC 35-5 (Synthetic High Polymers)
ST charge transfer **complex** polymer; mol assocn polymer **complex**; stability charge transfer **complex**; satn charge transfer **complex**
IT Polyesters, properties
RL: PRP (Properties)
(charge-transfer **complexes** containing, stability consts. in relation to saturation factors of)
IT Chains, chemical
(mobility of, in polymeric charge-transfer **complexes**, saturation factor in relation to)
IT Formation constant and Stability constant
Molecular association
(of charge-transfer **complexes**, saturation factors in relation to)
IT Charge-transfer **complexes**
RL: USES (Uses)
(of polymers with fluorenones, stability consts. in relation to saturation factors of)
IT **57663-27-1** 61372-96-1 61372-97-2 61372-98-3
61389-74-0 61389-75-1 **61389-76-2** 61389-77-3
61389-78-4 **61389-82-0** **61389-83-1** 61389-84-2
61389-85-3 **61389-88-6** **61420-88-0**
RL: PRP (Properties)
(stability consts. of, saturation factor in relation to)
IT **57663-27-1** **61389-74-0** **61389-76-2**
61389-78-4 **61389-82-0** **61389-83-1**

61389-88-6 61420-88-0
RL: PRP (Properties)
(stability consts. of, saturation factor in relation to)
RN 57663-27-1 HCAPLUS
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with poly[oxy[2-(9H-carbazol-9-yl)-2-methyl-1,3-dioxo-1,3-propanediyl]oxy[2-(9H-carbazol-9-yl)-2-methyl-1,3-propanediyl]] (9CI) (CA INDEX NAME)

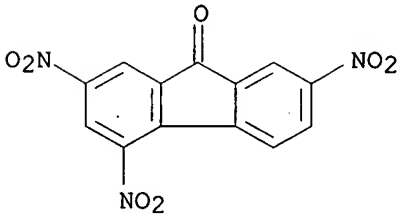
CM 1

CRN 57663-26-0
CMF (C32 H26 N2 O4)n
CCI PMS



CM 2

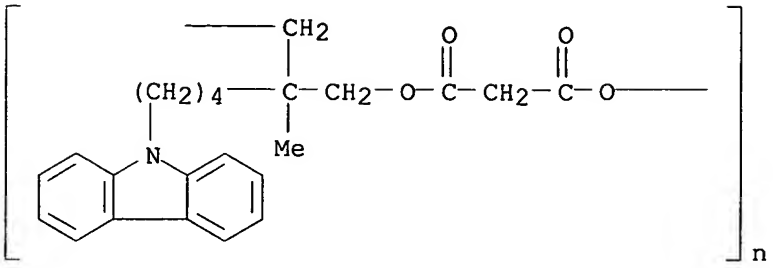
CRN 129-79-3
CMF C13 H5 N3 O7



RN 61389-74-0 HCAPLUS
CN Poly[oxy(1,3-dioxo-1,3-propanediyl)oxy[2-[4-(9H-carbazol-9-yl)butyl]-2-methyl-1,3-propanediyl]], compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

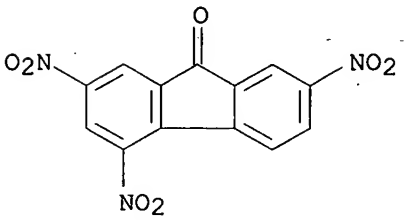
CM 1

CRN 55946-32-2
CMF (C23 H25 N O4)n
CCI PMS



CM 2

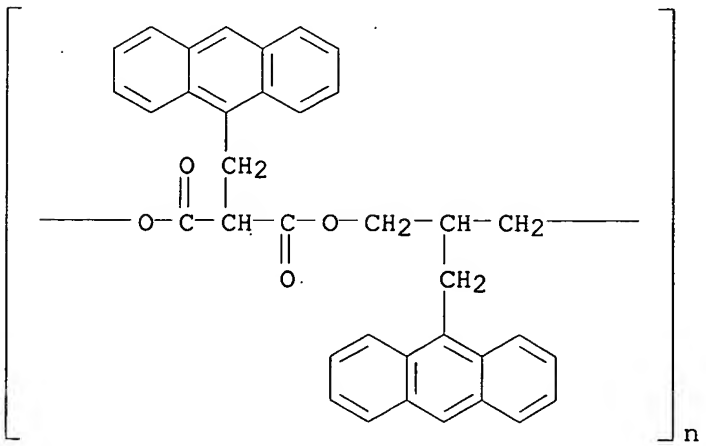
CRN 129-79-3
CMF C13 H5 N3 O7



RN 61389-76-2 HCAPLUS
CN Poly[oxy[2-(anthracenylmethyl)-1,3-dioxo-1,3-propanediyl]oxy[2-(9-anthracenylmethyl)-1,3-propanediyl]], compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

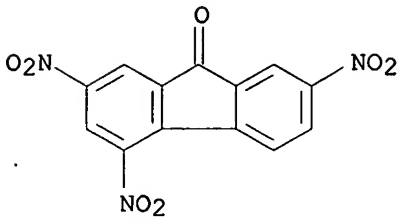
CM 1

CRN 58361-37-8
CMF (C36 H28 O4)n
CCI PMS



CM 2

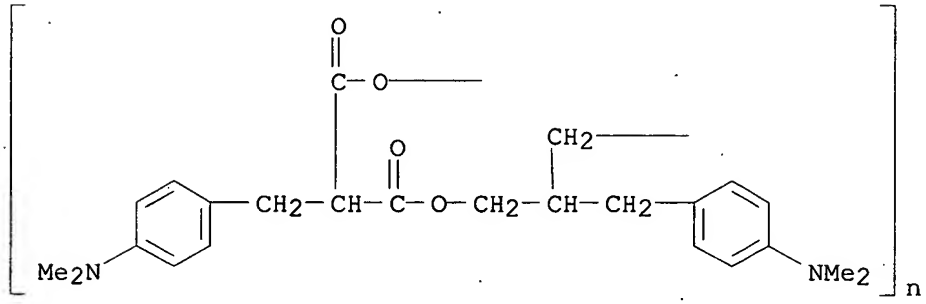
CRN 129-79-3
CMF C13 H5 N3 O7



RN 61389-78-4 HCAPLUS
CN Poly[oxy[2-[[4-(dimethylamino)phenyl]methyl]-1,3-dioxo-1,3-propanediyl]oxy[2-[[4-(dimethylamino)phenyl]methyl]-1,3-propanediyl]], compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

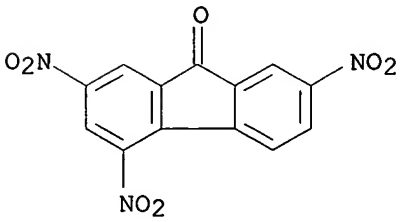
CM 1

CRN 58361-41-4
CMF (C24 H30 N2 O4)n
CCI PMS



CM 2

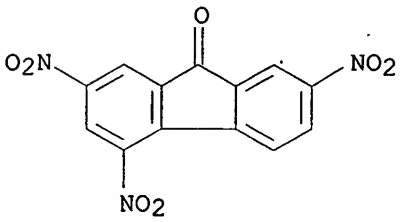
CRN 129-79-3
CMF C13 H5 N3 O7



RN 61389-82-0 HCAPLUS
CN Propanedioic acid, 9H-carbazol-9-ylmethyl-, polymer with 2-(9H-carbazol-9-yl)-2-methyl-1,3-propanediol, compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

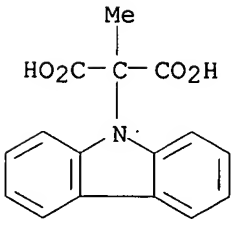


CM 2

CRN 61389-81-9
CMF (C16 H17 N O2 . C16 H13 N O4)x
CCI PMS

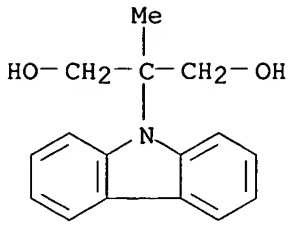
CM 3

CRN 61389-80-8
CMF C16 H13 N O4



CM 4

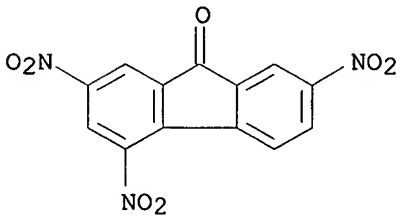
CRN 57663-32-8
CMF C16 H17 N O2



RN 61389-83-1 HCAPLUS
CN Propanedioic acid, polymer with 2-[4-(9H-carbazol-9-yl)butyl]-2-methyl-1,3-propanediol, compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

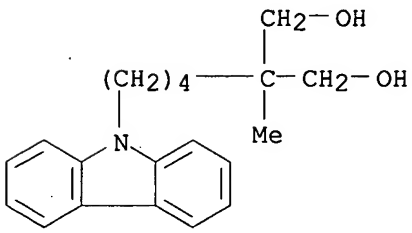


CM 2

CRN 55935-38-1
CMF (C20 H25 N O2 . C3 H4 O4)x
CCI PMS

CM 3

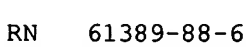
CRN 55935-37-0
CMF C20 H25 N O2



CM 4

CRN 141-82-2

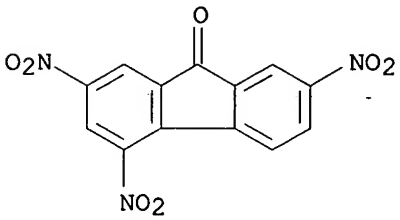
CMF C3 H4 O4



RN 61389-88-6 HCAPLUS
CN Propanedioic acid, [[4-(dimethylamino)phenyl]methyl]-, polymer with 2-[[4-(dimethylamino)phenyl]methyl]-1,3-propanediol, compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

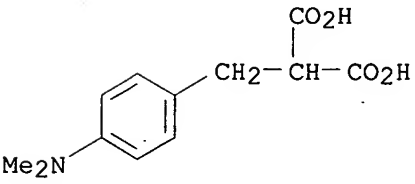


CM 2

CRN 61389-87-5
CMF (C12 H19 N O2 . C12 H15 N O4)x
CCI PMS

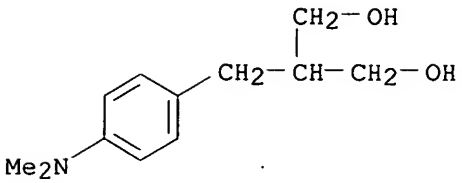
CM 3

CRN 61389-86-4
CMF C12 H15 N O4



CM 4

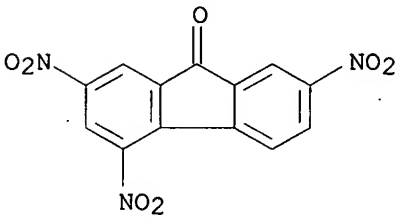
CRN 58353-46-1
CMF C12 H19 N O2



RN 61420-88-0 HCAPLUS
CN Propanedioic acid, (9-anthracenylmethyl)-, polymer with 2-(9-anthracenylmethyl)-1,3-propanediol, compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

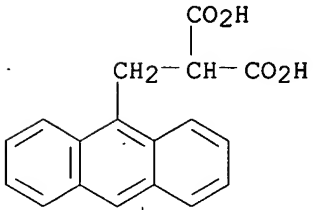


CM 2

CRN 58353-43-8
CMF (C18 H18 O2 . C18 H14 O4)x
CCI PMS

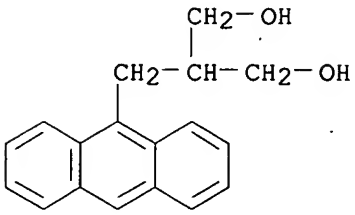
CM 3

CRN 58353-42-7
CMF C18 H14 O4



CM 4

CRN 58353-41-6
CMF C18 H18 O2

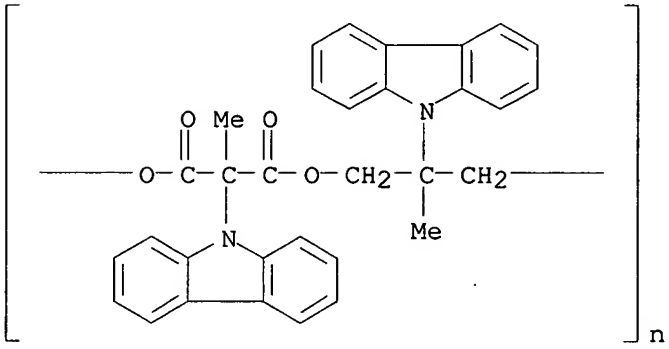


L21 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1976:31651 HCAPLUS
DN 84:31651
TI Donor-acceptor interactions in polymeric systems. 3. Oligoesters from 9-[1,1-bis(hydroxymethyl)ethyl]carbazole
AU Matsuyama, Yuziro; Tazuke, Shigeo
CS Res. Lab. Resour. Util., Tokyo Inst. Technol., Tokyo, Japan
SO Makromolekulare Chemie (1975), 176(11), 3167-78
CODEN: MACEAK; ISSN: 0025-116X
DT Journal
LA English
GI For diagram(s), see printed CA Issue.
AB Charge transfer **complexes** between oligoesters of 9-[1,1-bis(hydroxymethyl)ethyl]carbazole [57663-32-8] and di-Et malonate, di-Me terephthalate, and di-Et 2-(9-carbazolyl)-2-methylmalonate [57663-33-9] had higher stability consts. than charge transfer **complexes** from the monomeric model compound 9-[1,1-bis(acetoxymethyl)ethyl]carbazole [57663-40-8]. The magnitude of the stability constant for the oligoester **complexes** decreased with acid component in the order (carbazolyl)methylmalonate, malonate, terephthalate. Chromophore environments and the different types of donor-acceptor interactions were discussed.
CC 35-5 (Synthetic High Polymers)
ST carbazolyldiol oligoester **complex**; charge transfer **complex** carbazolyl polymer; polyester oligomeric carbazolyldiol
IT Fluorescence
(of carbazolyl oligoesters, structure effect on)
IT Polyesters, properties
RL: PRP (Properties)
(oligo-, carbazolyl-substituted, charge-transfer **complexes** of, stability consts. of)
IT 57663-26-0
RL: USES (Uses)
(oligo-, stability consts. of charge-transfer **complexes** of)
IT 57663-28-2 57663-30-6 57663-34-0 57663-36-2 57663-38-4
RL: USES (Uses)
(oligo-, transfer **complexes** of stability consts. of charge-)
IT 57663-32-8P 57663-40-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 86-74-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with bromomalonate)
IT 29263-94-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbazole)

IT 57663-33-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of)
IT **57663-27-1** 57663-29-3 **57663-31-7** **57663-35-1**
57663-37-3 **57663-39-5** 57663-41-9
RL: PRP (Properties)
(stability consts. of)
IT **57663-27-1** **57663-31-7** **57663-35-1**
57663-39-5
RL: PRP (Properties)
(stability consts. of)
RN 57663-27-1 HCAPLUS
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with poly[oxy[2-(9H-carbazol-9-yl)-2-methyl-1,3-dioxo-1,3-propanediyl]oxy[2-(9H-carbazol-9-yl)-2-methyl-1,3-propanediyl]] (9CI) (CA INDEX NAME)

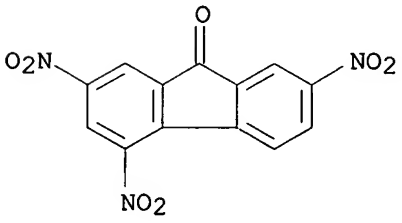
CM 1

CRN 57663-26-0
CMF (C32 H26 N2 O4)n
CCI PMS



CM 2

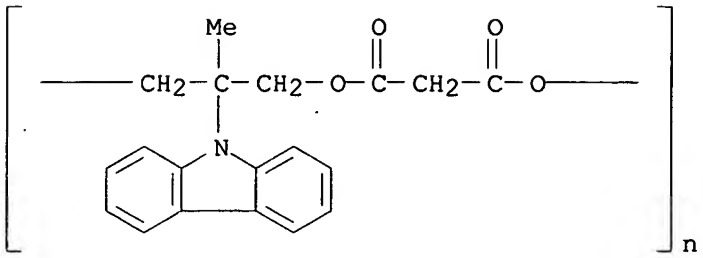
CRN 129-79-3
CMF C13 H5 N3 O7



RN 57663-31-7 HCAPLUS
CN 9H-Fluoren-9-one, 2,4,7-trinitro-, compd. with poly[oxy(1,3-dioxo-1,3-propanediyl)oxy[2-(9H-carbazol-9-yl)-2-methyl-1,3-propanediyl]] (9CI) (CA INDEX NAME)

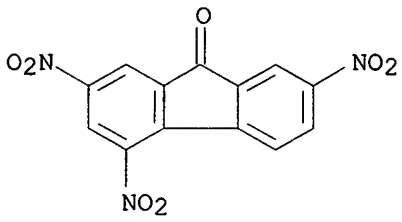
CM 1

CRN 57663-30-6
CMF (C19 H17 N O4)n
CCI PMS



CM 2

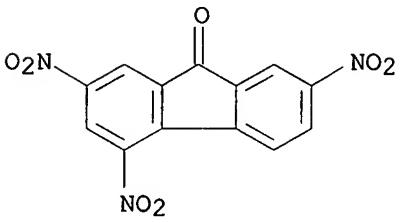
CRN 129-79-3
CMF C13 H5 N3 O7



RN 57663-35-1 HCAPLUS
CN Propanedioic acid, 9H-carbazol-9-ylmethyl-, diethyl ester, polymer with 2-(9H-carbazol-9-yl)-2-methyl-1,3-propanediol, compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

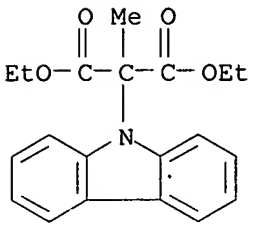


CM 2

CRN 57663-34-0
CMF (C20 H21 N O4 . C16 H17 N O2)x
CCI PMS

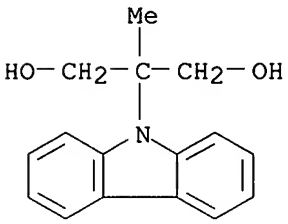
CM 3

CRN 57663-33-9
CMF C20 H21 N O4



CM 4

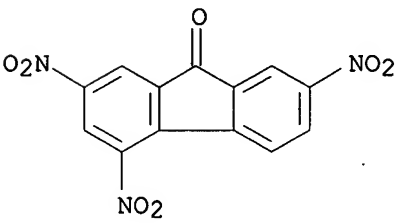
CRN 57663-32-8
CMF C16 H17 N O2



RN 57663-39-5 HCAPLUS
CN Propanedioic acid, diethyl ester, polymer with 2-(9H-carbazol-9-yl)-2-methyl-1,3-propanediol, compd. with 2,4,7-trinitro-9H-fluoren-9-one (9CI) (CA INDEX NAME)

CM 1

CRN 129-79-3
CMF C13 H5 N3 O7

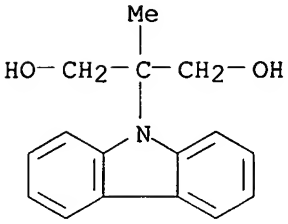


CM 2

CRN 57663-38-4
CMF (C16 H17 N O2 . C7 H12 O4)x
CCI PMS

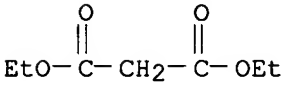
CM 3

CRN 57663-32-8
CMF C16 H17 N O2

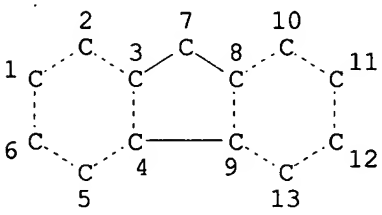


CM 4

CRN 105-53-3
CMF C7 H12 O4



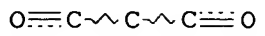
=> => D QUE
L4 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE
L5 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L6		SCR 2043
L8	27	SEA FILE=REGISTRY SSS FUL L4 AND L5 AND L6
L11	402	SEA FILE=REGISTRY SSS FUL L4 AND L5
L13	12	SEA FILE=HCAPLUS ABB=ON L8
L14	0	SEA FILE=HCAPLUS ABB=ON L13(L)(IR OR IRIDIUM OR PT OR PLATINUM OR RH OR RHENIUM OR RU OR RUTHENIUM)
L15	1	SEA FILE=HCAPLUS ABB=ON L13 AND (IR OR IRIDIUM OR PT OR PLATINUM OR RH OR RHENIUM OR RU OR RUTHENIUM)
L16	215	SEA FILE=HCAPLUS ABB=ON L11
L17	1	SEA FILE=HCAPLUS ABB=ON L13 AND (IR OR IRIDIUM OR PT OR PLATINUM OR RH OR RHENIUM OR RU OR RUTHENIUM)
L18	7	SEA FILE=HCAPLUS ABB=ON L13 AND COMPLEX?
L19	0	SEA FILE=HCAPLUS ABB=ON L13 AND COMPLEX?(3A)METAL?
L20	3	SEA FILE=HCAPLUS ABB=ON L16 AND COMPLEX?(3A)METAL?
L21	11	SEA FILE=HCAPLUS ABB=ON L14 OR L15 OR (L17 OR L18 OR L19 OR L20)
L22	86937	SEA FILE=REGISTRY ABB=ON 1839.6.36/RID ring identifier for fluorene
L23	199	SEA FILE=REGISTRY ABB=ON L22 AND 1-4/IR,RH,PT,RU
L24	52	SEA FILE=REGISTRY ABB=ON L23 AND 2-10/O
L25	25	SEA FILE=HCAPLUS ABB=ON L24
L28	11	SEA FILE=HCAPLUS ABB=ON L25 AND COMPLEX?(3A)METAL?
L30	48552	SEA FILE=HCAPLUS ABB=ON L22
L32	113	SEA FILE=HCAPLUS ABB=ON L30(L)(IR OR IRIDIUM OR PT OR PLATINUM OR RH OR RHENIUM OR RU OR RUTHENIUM)(L)COMPLEX?
L33	0	SEA FILE=HCAPLUS ABB=ON L32(L)?DICARBONYL?
L34	0	SEA FILE=HCAPLUS ABB=ON L32 AND ?DICARBONYL?
L35	29	SEA FILE=HCAPLUS ABB=ON L32 AND ?LUMINES?
L36	35	SEA FILE=HCAPLUS ABB=ON L32 AND (POLYMER? OR PLASTIC?)/SC,SX,AB,BI
L37	25	SEA FILE=HCAPLUS ABB=ON L36 AND L35
L38	35	SEA FILE=HCAPLUS ABB=ON L28 OR L33 OR L34 OR L37
L39	35	SEA FILE=HCAPLUS ABB=ON L38 NOT L21

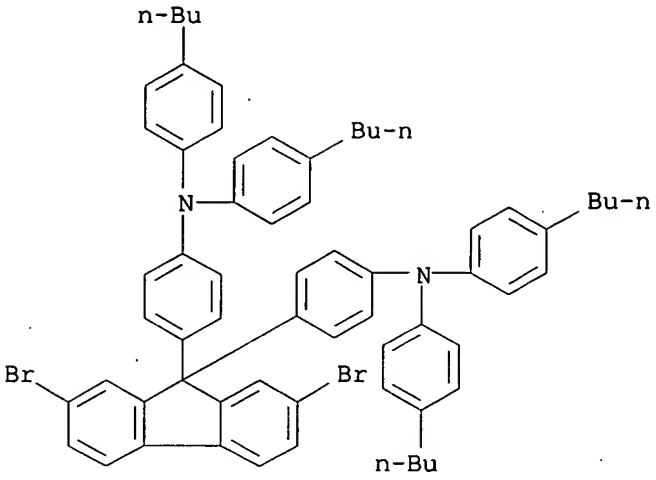
=> D L39 BIB ABS IND HITSTR

L39 ANSWER 1 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:706599 HCAPLUS
DN 141:372472
TI Highly efficient red electrophosphorescent devices based on an iridium complex with trifluoromethyl-substituted pyrimidine ligand
AU Niu, Yu-Hua; Chen, Baoquan; Liu, Sen; Yip, Hinlap; Bardecker, Julie; Jen, Alex K.-Y.; Kavitha, Jakka; Chi, Yun; Shu, Ching-Fong; Tseng, Ya-Hsien; Chien, Chen-Han
CS Department of Materials Science and Engineering, University of Washington,

Seattle, WA, 98195-2120, USA
SO Applied Physics Letters (2004), 85(9), 1619-1621
CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
AB Highly efficient red-emitting electrophosphorescent devices were fabricated by doping an Ir complex containing trifluoromethyl (CF3)-substituted pyrimidine ligand into a conjugated bipolar polyfluorene with triphenylamine and oxadiazole as side chains. The device efficiency can be enhanced through effective exciton confinement using a layer of 1,3,5-tris(N-phenylbenzimidazol-2-yl)benzene on the cathode side and a layer of in situ **polymerized** tetraphenyldiamine-perfluorocyclobutane on the anode side. For a blend with 5% of the Ir complex, a maximum external quantum efficiency of 7.9 photon/electron % and a maximum brightness of 15800 cd/m2 are reached with Commission Internationale de L'Eclairage chromaticity coordinates of x = 0.65 and y = 0.34.
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **36**
ST red electrophosphorescent device LED iridium complex trifluoromethyl pyrimidine ligand
IT **Electroluminescent** devices
Luminescence
Luminescence, electroluminescence
UV and visible spectra
(highly efficient red electrophosphorescent devices based on an iridium complex with trifluoromethyl-substituted pyrimidine ligand)
IT 7429-90-5, Aluminum, uses 13400-13-0, Cesium fluoride 50851-57-5 50926-11-9, Indium tin oxide 126213-51-2, PEDOT
RL: DEV (Device component use); USES (Uses)
(highly efficient red electrophosphorescent devices based on an iridium complex with trifluoromethyl-substituted pyrimidine ligand)
IT 192198-85-9 **607708-20-3** 775323-92-7 777855-56-8
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(highly efficient red electrophosphorescent devices based on an **iridium complex** with trifluoromethyl-substituted pyrimidine ligand)
IT **607708-20-3**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(highly efficient red electrophosphorescent devices based on an **iridium complex** with trifluoromethyl-substituted pyrimidine ligand)
RN 607708-20-3 HCAPLUS
CN Benzenamine, 4,4'-(2,7-dibromo-9H-fluoren-9-ylidene)bis[N,N-bis(4-butylphenyl)-, polymer with 2,2'-[(2,7-dibromo-9H-fluoren-9-ylidene)di-4,1-phenylene]bis[5-[4-(1,1-dimethylethyl)phenyl]-1,3,4-oxadiazole] and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

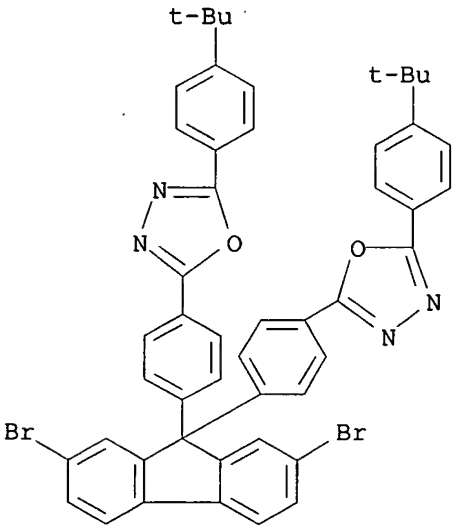
CM 1

CRN 607708-19-0
CMF C65 H66 Br2 N2



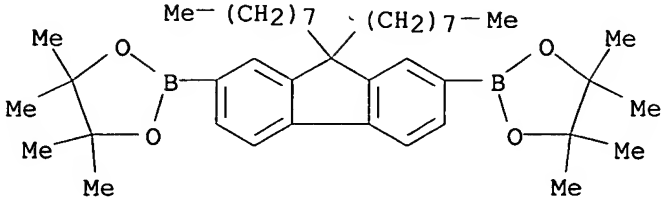
CM 2

CRN 492466-40-7
CMF C49 H40 Br2 N4 O2



CM 3

CRN 196207-58-6
CMF C41 H64 B2 O4



RE.CNT 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> D L39 BIB ABS IND HITSTR 2-35

L39 ANSWER 2 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:431928 HCAPLUS
DN 141:140860
TI Harvesting of Organic Triplet Emissions in Metal Diynes and Polyynes of Group 10-12 Transition Elements Containing the Conjugation-Interrupting Diphenylfluorene Unit
AU Wong, Wai-Yeung; Liu, Li; Poon, Suk-Yue; Choi, Ka-Ho; Cheah, Kok-Wai; Shi, Jian-Xin
CS Department of Chemistry, Hong Kong Baptist University, Kowloon Tong, Peop. Rep. China
SO Macromolecules (2004), 37(12), 4496-4504
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
AB Soluble and thermally stable Group 10 Pt(II) and Group 12 Hg(II) polyyne **polymers** containing the diphenylfluorene moiety trans-[-Pt(PBu3)2C.tplbond.CRC.tplbond.C-]n and [-HgC.tplbond.CRC.tplbond.C-]n (R = 9,9-bis(benzene-1,4-diyl)fluorene) were prepared in good yields by polycondensation **polymerization** of trans-[PtCl2(PBu3)2] or HgCl2 with 9,9-bis(4-ethynylphenyl)fluorene. The authors report the optical absorption and **photoluminescence** spectra of these C-rich metal-based **polymers** and compare the results with their monomeric model complexes trans-[Pt(Ph)(PEt3)2C.tplbond.CRC.tplbond.CPt(Ph)(PEt3)2] and [MeHgC.tplbond.CRC.tplbond.CHgMe] as well as the Group 11 Au(I) congener [(PPh3)AuC.tplbond.CRC.tplbond.CAu(PPh3)]. The regiochem. structures of the **polymers** were studied by NMR spectroscopy and by single-crystal x-ray anal. for the model Pt(II) compound The authors' studies indicate that harvesting of the organic triplet emissions can be achieved by the heavy-atom effect of Group 10-12 transition metals (i.e., Pt, Au, Hg) which enables a very high efficiency of intersystem crossing from the S1 singlet excited state to the T1 triplet excited state. The influence of the metal and the fluorene ring on the intersystem crossing rate and the spatial extent of singlet and triplet excitons was characterized. These phosphorescent metal-organic materials show T1-S0 gaps of 2.5 eV or above, which correspond to S1-S0 gaps of 3.1 eV or higher. High-energy triplet states (and concurrently high optical gaps) intrinsically lead to more efficient phosphorescence in metal-containing aryleneethynylenes and can facilitate the radiative decay pathway.
CC 35-6 (Chemistry of Synthetic High **Polymers**)
Section cross-reference(s): 22, 29, 73, 75
ST transition metal 5d alkynyl monomer **polymer** prepn structure phosphorescence; platinum phenylfluorene based alkynyl monomer

polymer prepn structure phosphorescence; mercury phenylfluorene based alkynyl monomer **polymer** prepn phosphorescence; gold phenylfluorene based alkynyl monomer prepn phosphorescence; intersystem crossing platinum alkynyl complex monomer **polymer**; crystal structure platinum phenylfluorene based alkynyl complex; mol structure platinum phenylfluorene based alkynyl complex

IT **Polymers**, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(metal-containing; preparation, crystal structure and phosphorescence of platinum, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric** complexes)

IT Crystal structure
Molecular structure
(of platinum diphenylfluorene-based alkynyl phosphine Ph complex)

IT Heavy atom effect
(on intersystem crossing in platinum complexes; preparation, crystal structure and phosphorescence of platinum, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric** complexes)

IT Intersystem crossing
(platinum complexes, heavy atom effect; preparation, crystal structure and phosphorescence of platinum, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric** complexes)

IT Electronic state
Phosphorescence
(preparation, crystal structure and phosphorescence of platinum, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric** complexes)

IT Transition metal complexes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation, crystal structure and phosphorescence of platinum, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric** complexes)

IT Exciton
(singlet, spatial extent; preparation, crystal structure and phosphorescence of platinum, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric** complexes)

IT **Polymer** degradation
(thermal; preparation, crystal structure and phosphorescence of platinum, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric** complexes)

IT Exciton
(triplet, spatial extent; preparation, crystal structure and phosphorescence of platinum, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric** complexes)

IT **726138-39-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crystal structure; preparation, crystal structure and phosphorescence of **platinum**, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric complexes**)

IT **726138-38-1P 726138-41-6P 726138-42-7P**
726138-43-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation, crystal structure and phosphorescence of **platinum**, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric complexes**)

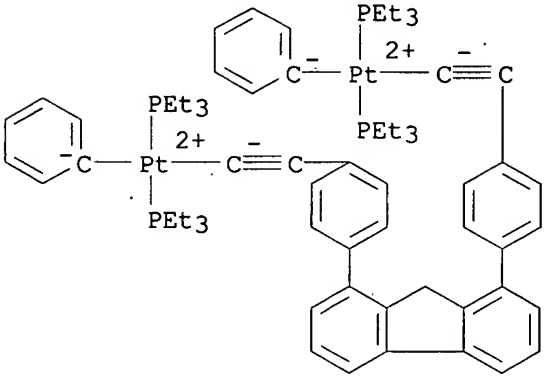
IT 115-09-3, Methylmercury chloride 1066-54-2, Ethynyltrimethylsilane
13938-93-7, trans-Chloro(phenyl)bis(triethylphosphine)platinum
14243-64-2, Chloro(triphenylphosphine)gold 15391-01-2,

trans-Dichlorobis(tributylphosphine)platinum **128406-10-0**,
9,9-Bis(4-bromophenyl)fluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation, crystal structure and phosphorescence of **platinum**, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric complexes**)

IT **152480-69-8P**, 9,9-Bis(4-ethynylphenyl)fluorene
726138-44-9P, 9,9-Bis(4-trimethylsilylethynylphenyl)fluorene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, crystal structure and phosphorescence of **platinum**, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric complexes**)

IT **726138-39-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crystal structure; preparation, crystal structure and phosphorescence of **platinum**, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric complexes**)

RN 726138-39-2 HCAPLUS
CN Platinum, [μ-[9H-fluorene-1,8-diylbis(4,1-phenylene-2,1-ethynediyl)]]diphenyltetrakis(triethylphosphine)di-, stereoisomer (9CI) (CA INDEX NAME)

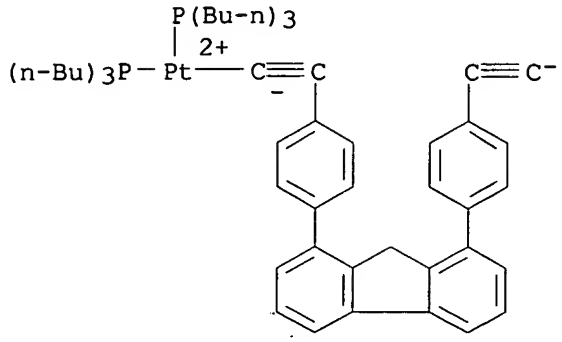


IT **726138-38-1P 726138-41-6P 726138-42-7P**
726138-43-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation, crystal structure and phosphorescence of **platinum**, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric complexes**)

RN 726138-38-1 HCAPLUS
CN Platinum, [1-[4-(ethynyl-κC2)phenyl]-8-(4-ethynylphenyl)-9H-fluorenato(2-)]bis(tributylphosphine)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

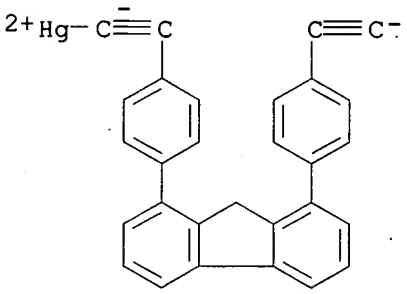
CRN 726138-37-0
CMF C53 H70 P2 Pt
CCI CCS



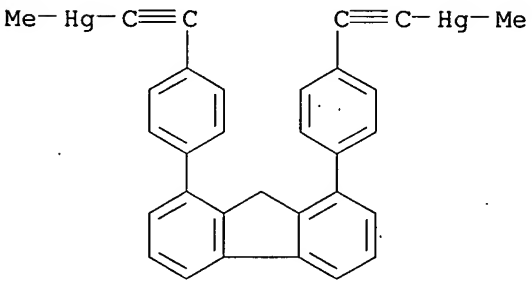
RN 726138-41-6 HCAPLUS
CN Mercury, [1-[4-(ethynyl-κC2)phenyl]-8-(4-ethynylphenyl)-9H-fluorenato(2-)]-, homopolymer (9CI) (CA INDEX NAME)

CM 1

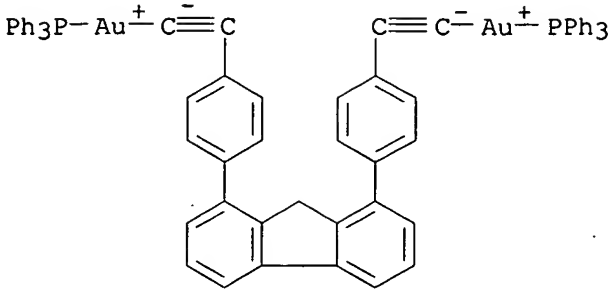
CRN 726138-40-5
CMF C29 H16 Hg
CCI CCS



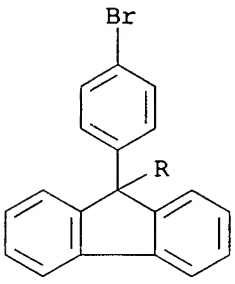
RN 726138-42-7 HCAPLUS
CN Mercury, [μ-[9H-fluorene-1,8-diylbis(4,1-phenylene-2,1-ethynediyl)]]dimethyldi- (9CI) (CA INDEX NAME)

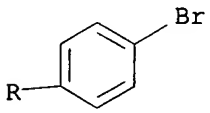


RN 726138-43-8 HCAPLUS
CN Gold, [μ-[9H-fluorene-1,8-diylbis(4,1-phenylene-2,1-ethynediyl)]]bis(triphenylphosphine)di- (9CI) (CA INDEX NAME)

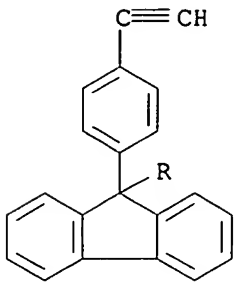


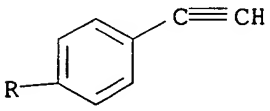
IT **128406-10-0**, 9,9-Bis(4-bromophenyl)fluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation, crystal structure and phosphorescence of **platinum**, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric complexes**)
RN 128406-10-0 HCAPLUS
CN 9H-Fluorene, 9,9-bis(4-bromophenyl)- (9CI) (CA INDEX NAME)



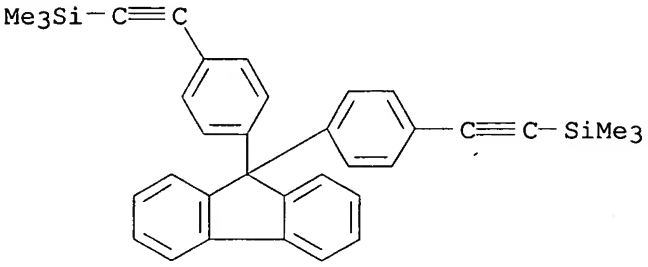


IT **152480-69-8P**, 9,9-Bis(4-ethynylphenyl)fluorene
726138-44-9P, 9,9-Bis(4-trimethylsilylethynylphenyl)fluorene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, crystal structure and phosphorescence of **platinum**, mercury and/or gold phenylfluorene-based alkynyl monomeric and **polymeric complexes**)
RN 152480-69-8 HCAPLUS
CN 9H-Fluorene, 9,9-bis(4-ethynylphenyl)- (9CI) (CA INDEX NAME)





RN 726138-44-9 HCAPLUS
CN Silane, [9H-fluoren-9-ylidenebis(4,1-phenylene-2,1-ethynediyl)]bis[trimethyl- (9CI) (CA INDEX NAME)



RE.CNT 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 3 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:380296 HCAPLUS
DN 141:123741
TI Solution-Processible Conjugated Electrophosphorescent **Polymers**
AU Sandee, Albertus J.; Williams, Charlotte K.; Evans, Nicholas R.; Davies, John E.; Boothby, Clare E.; Koehler, Anna; Friend, Richard H.; Holmes, Andrew B.
CS Melville Laboratory for Polymer Synthesis, Department of Chemistry, University of Cambridge, Cambridge, CB2 1EW, UK
SO Journal of the American Chemical Society (2004), 126(22), 7041-7048
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
AB The authors report the synthesis and photophys. study of solution-processible phosphorescent Ir complexes. These comprise bis-cyclometalated Ir units [Ir(ppy)2(acac)] or [Ir(btp)2(acac)] where ppy is 2-(pyridin-2-yl)phenyl, btp is 2-(pyridin-2-yl)benzo[b]thien-3-yl, and acac is acetylacetonate. The Ir units are covalently attached to and in conjugation with

oligo(9,9-dioctylfluorene-2,7-diyl) [(FO)n] to form [Ir(ppy-(FO)n)2(acac)] or [Ir(btp-(FO)n)2(acac)], where the number of fluorene units, n, is 1, 2, 3, .apprx.10, .apprx.20, .apprx.30, or .apprx.40. All the complexes exhibit emission from a mixed triplet state in both **photoluminescence** and **electroluminescence**, with efficient quenching of the fluorene singlet emission. Short-chain complexes [Ir(ppy-(FO)n-FH)2(acac)] where n = 0, 1, or 2, show green light emission, red shifted through the FO attachment by .apprx.70 meV, but for longer chains there is quenching because of the lower energy triplet state associated with polyfluorene. In contrast, **polymeric** [Ir(btp-(FO)n)2(acac)] where n = 5-40 have better triplet energy level matching and can be used to provide efficient red phosphorescent **polymer** light-emitting diodes, with a red shift due to the fluorene attachment of .apprx.50 meV. The authors contrast this small (50-70 meV) and short-range modification of the triplet energies through extended conjugation, with the much more substantial evolution of the π-π^* singlet transitions, which saturate at about n = 10. These covalently bound materials show improvements in efficiency over simple blends and will form the basis of future studies into energy-transfer processes occurring in light-emitting diodes. The crystal and mol. structures of (acetylacetonato)bis(2-(5-bromopyridin-2-yl)benzo[b]thiophen-3-yl)iridium were determined by x-ray crystallog.

CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22, **35**, **37**, 73

ST cyclometalated iridium oligofluorene contg prepn electro photo fluorescence phosphorescence; LED green red cyclometalated iridium oligofluorene contg

IT Intramolecular energy transfer
(electronic; preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)

IT **Electroluminescent** devices
(green-emitting; preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)

IT Electronic energy transfer
(intramol.; preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)

IT Phosphorescence
(photo- and electro-; preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)

IT Fluorescence
Luminescence, electroluminescence
UV and visible spectra
(preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)

IT **Electroluminescent** devices
(red-emitting; preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)

IT 721916-86-5P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crystal structure; preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)

IT 620624-90-0P
RL: DEV (Device component use); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP

(Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation and photophys. properties of cyclometalated iridium complexes containing oligofluorene and use as red phosphorescent LEDs)

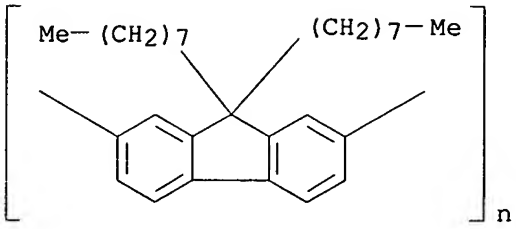
IT **195456-48-5DP**, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl), 2-pyridylphenyl- and 2-pyridinylbenzo[b]thiophen-3-yl-terminated, **iridium** acetoacetonate **complexes** 620624-90-0DP, conjugated **polymer**-terminated products **620625-11-8P** **620625-12-9P** **620625-13-0P** 721916-86-5DP, conjugated **polymer**-terminated products
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and photophys. properties of cyclometalated **iridium** **complexes** containing oligofluorene and use as red phosphorescent LEDs)

IT 95-15-8, Benzo[b]thiophene 106-40-1, p-Bromoaniline 110-86-1, Pyridine, reactions 624-28-2, 2,5-Dibromopyridine 61676-62-8, 2-Isopropoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane **198964-46-4**, 2,7-Dibromo-9,9-dioctylfluorene **264925-45-3**, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-dihexylfluorene **620624-94-4**, 2-Bromo-7-trimethylsilyl-9,9-dioctylfluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and photophys. properties of cyclometalated **iridium** **complexes** containing oligofluorene and use as red phosphorescent LEDs)

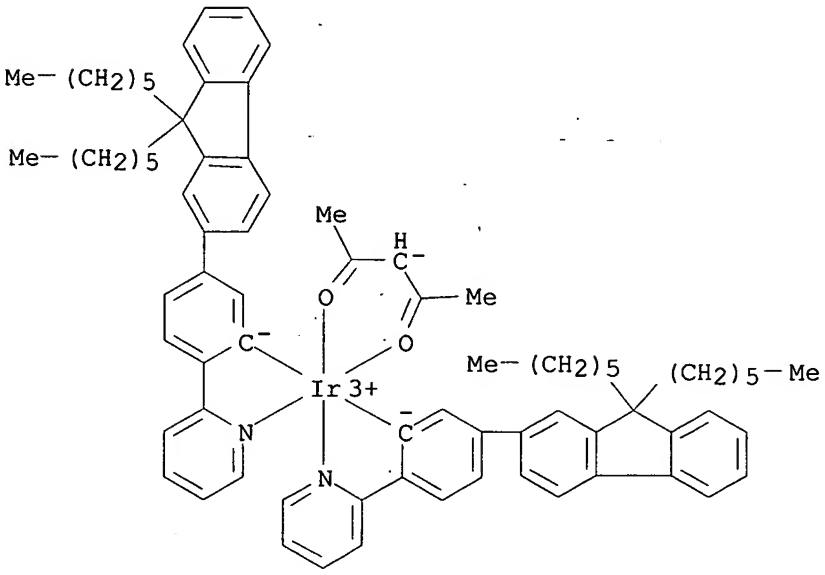
IT 63996-36-1P, 2-(4-Bromophenyl)pyridine 80389-85-1P 376584-76-8P, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)benzo[b]thiophene 557793-46-1P, 2-(2-Benzo[b]thienyl)-5-bromopyridine **620624-92-2P**, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-7-trimethylsilyl-9,9-dioctylfluorene **620624-96-6P**, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-7-bromo-9,9-dioctylfluorene **620624-98-8P**, 2-[4-(9,9-Dihexylfluoren-2-yl)phenyl]pyridine **620625-01-6P**, 2-[4-(7-Trimethylsilyl-9,9-dioctylfluoren-2-yl)phenyl]pyridine **620625-03-8P**, 2-[4-(7-Iodo-9,9-dioctylfluoren-2-yl)phenyl]pyridine **620625-05-0P**, 2-[4-[7-(9,9-Dihexylfluoren-2-yl)-9,9-dioctylfluoren-2-yl]phenyl]pyridine **620625-07-2P**, 2-[4-[7-(7-Iodo-9,9-dioctylfluoren-2-yl)-9,9-dioctylfluoren-2-yl]phenyl]pyridine **620625-09-4P**, 2-[4-[7-[7-(9,9-Dihexylfluoren-2-yl)-9,9-dioctylfluoren-2-yl]-9,9-dioctylfluoren-2-yl]phenyl]pyridine 721916-91-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and photophys. properties of cyclometalated **iridium** **complexes** containing oligofluorene and use as red phosphorescent LEDs)

IT **195456-48-5DP**, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl), 2-pyridylphenyl- and 2-pyridinylbenzo[b]thiophen-3-yl-terminated, **iridium** acetoacetonate **complexes** **620625-11-8P** **620625-12-9P** **620625-13-0P**
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and photophys. properties of cyclometalated **iridium** **complexes** containing oligofluorene and use as red phosphorescent LEDs)

RN 195456-48-5 HCAPLUS
CN Poly(9,9-dioctyl-9H-fluorene-2,7-diyl) (9CI) (CA INDEX NAME)

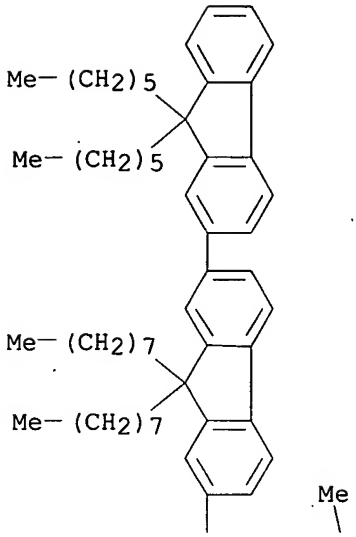


RN 620625-11-8 HCAPLUS
CN Iridium, bis[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-(2-pyridinyl-κN)phenyl-κC](2,4-pentanedionato-κO,κO')- (9CI) (CA INDEX NAME)



RN 620625-12-9 HCAPLUS
CN Iridium, bis[5-(9',9'-dihexyl-9,9-dioctyl[2,2'-bi-9H-fluoren]-7-yl)-2-(2-pyridinyl-κN)phenyl-κC](2,4-pentanedionato-κO,κO')- (9CI) (CA INDEX NAME)

PAGE 1-A



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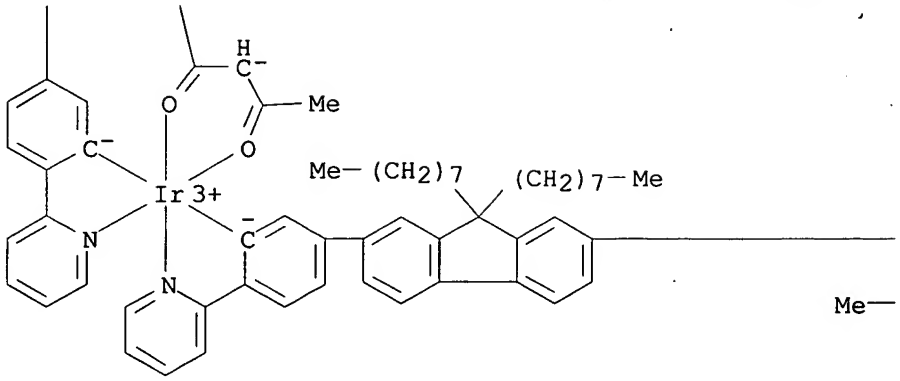

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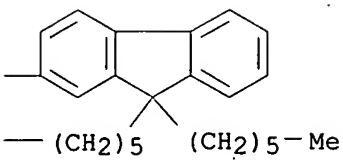
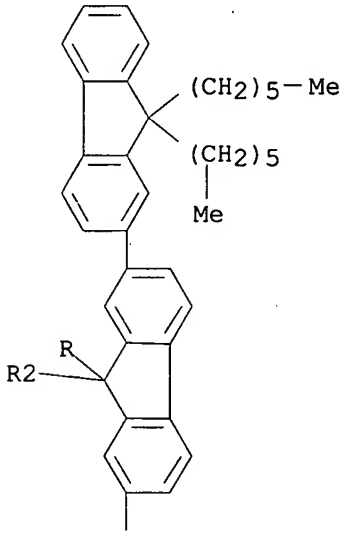


RN 620625-13-0 HCAPLUS
CN Iridium, bis[5-(9'',9''-dihexyl-9,9,9',9'-tetraoctyl[2,2':7',2''-ter-9H-fluoren]-7-yl)-2-(2-pyridinyl-κN)phenyl-κC](2,4-pentanedionato-κO,κO')- (9CI) (CA INDEX NAME)

PAGE 1-A



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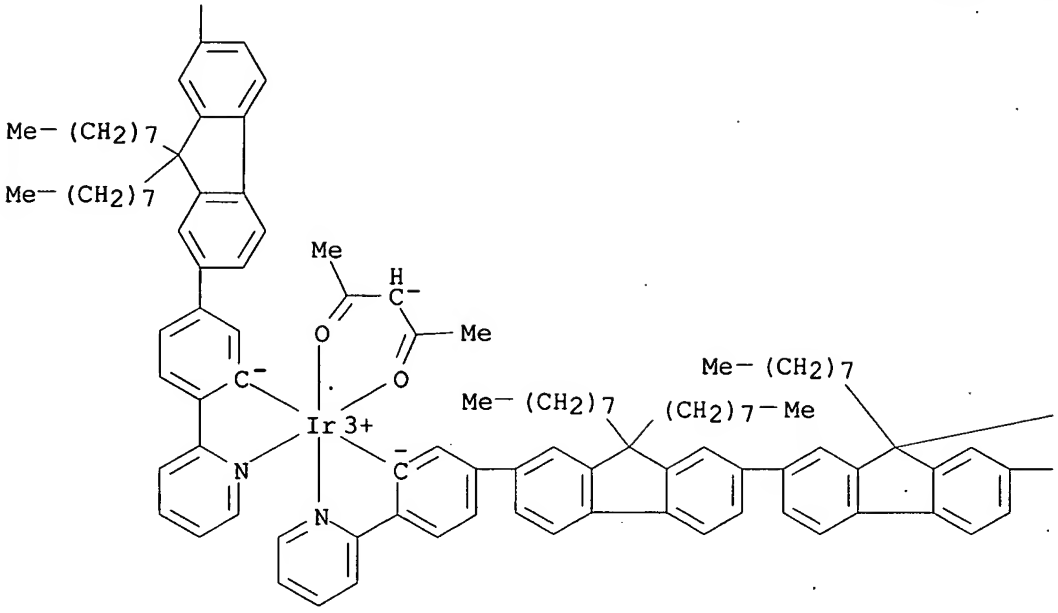

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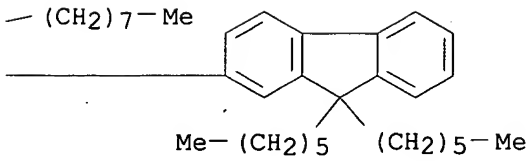
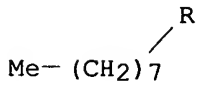
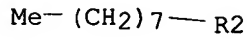


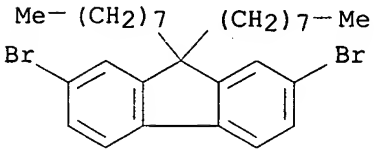
PAGE 3-A



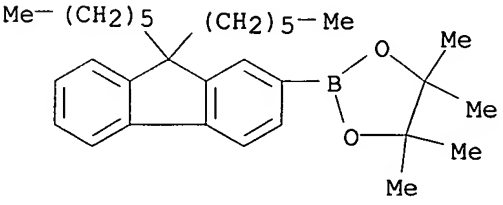


IT **198964-46-4**, 2,7-Dibromo-9,9-dioctylfluorene **264925-45-3**, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-9,9-dihexylfluorene **620624-94-4**, 2-Bromo-7-trimethylsilyl-9,9-dioctylfluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and photophys. properties of cyclometalated **iridium complexes** containing oligofluorene and use as red phosphorescent LEDs)

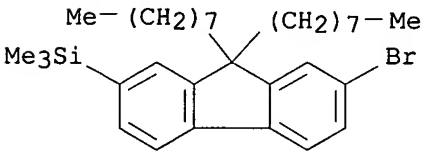
RN 198964-46-4 HCAPLUS
CN 9H-Fluorene, 2,7-dibromo-9,9-dioctyl- (9CI) (CA INDEX NAME)



RN 264925-45-3 HCAPLUS
CN 1,3,2-Dioxaborolane, 2-(9,9-dihexyl-9H-fluoren-2-yl)-4,4,5,5-tetramethyl- (9CI) (CA INDEX NAME)



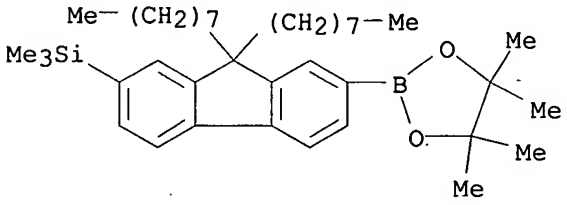
RN 620624-94-4 HCAPLUS
CN Silane, (7-bromo-9,9-dioctyl-9H-fluoren-2-yl)trimethyl- (9CI) (CA INDEX NAME)



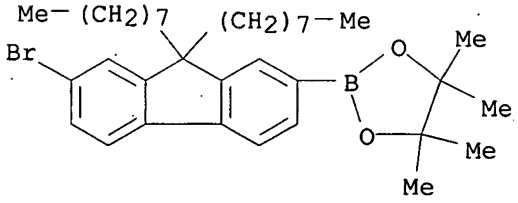
IT **620624-92-2P**, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-7-trimethylsilyl-9,9-dioctylfluorene **620624-96-6P**, 2-(4,4,5,5-Tetramethyl-1,3,2-dioxaborolan-2-yl)-7-bromo-9,9-dioctylfluorene **620624-98-8P**, 2-[4-(9,9-Dihexylfluoren-2-

yl)phenyl]pyridine **620625-01-6P**, 2-[4-(7-Trimethylsilyl-9,9-dioctylfluoren-2-yl)phenyl]pyridine **620625-03-8P**, 2-[4-(7-Iodo-9,9-dioctylfluoren-2-yl)phenyl]pyridine **620625-05-0P**, 2-[4-[7-(9,9-Dihexylfluoren-2-yl)-9,9-dioctylfluoren-2-yl]phenyl]pyridine **620625-07-2P**, 2-[4-[7-(7-Iodo-9,9-dioctylfluoren-2-yl)-9,9-dioctylfluoren-2-yl]phenyl]pyridine **620625-09-4P**, 2-[4-[7-[7-(9,9-Dihexylfluoren-2-yl)-9,9-dioctylfluoren-2-yl]-9,9-dioctylfluoren-2-yl]phenyl]pyridine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and photophys. properties of cyclometalated **iridium complexes** containing oligofluorene and use as red phosphorescent LEDs)

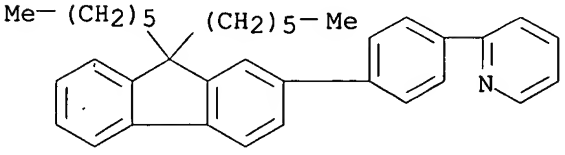
RN 620624-92-2 HCAPLUS
CN 1,3,2-Dioxaborolane, 2-[9,9-dioctyl-7-(trimethylsilyl)-9H-fluoren-2-yl]-4,4,5,5-tetramethyl- (9CI) (CA INDEX NAME)



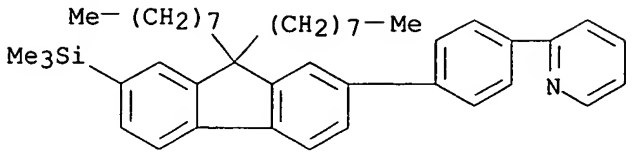
RN 620624-96-6 HCAPLUS
CN 1,3,2-Dioxaborolane, 2-(7-bromo-9,9-dioctyl-9H-fluoren-2-yl)-4,4,5,5-tetramethyl- (9CI) (CA INDEX NAME)



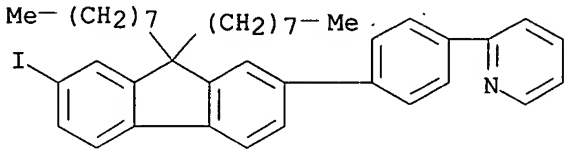
RN 620624-98-8 HCAPLUS
CN Pyridine, 2-[4-(9,9-dihexyl-9H-fluoren-2-yl)phenyl]- (9CI) (CA INDEX NAME)



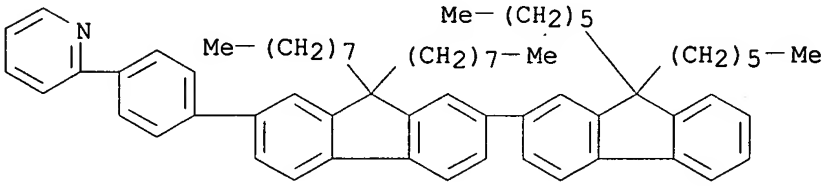
RN 620625-01-6 HCAPLUS
CN Pyridine, 2-[4-[9,9-dioctyl-7-(trimethylsilyl)-9H-fluoren-2-yl]phenyl]- (9CI) (CA INDEX NAME)



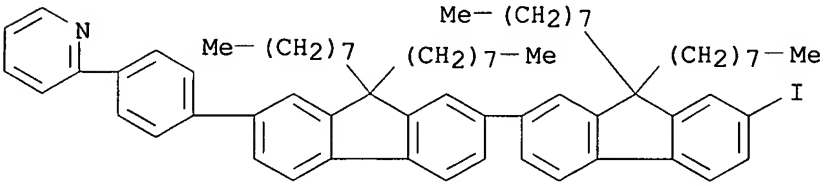
RN 620625-03-8 HCAPLUS
CN Pyridine, 2-[4-(7-iodo-9,9-dioctyl-9H-fluoren-2-yl)phenyl]- (9CI) (CA INDEX NAME)



RN 620625-05-0 HCAPLUS
CN Pyridine, 2-[4-(9',9'-dihexyl-9,9-dioctyl[2,2'-bi-9H-fluoren]-7-yl)phenyl]- (9CI) (CA INDEX NAME)

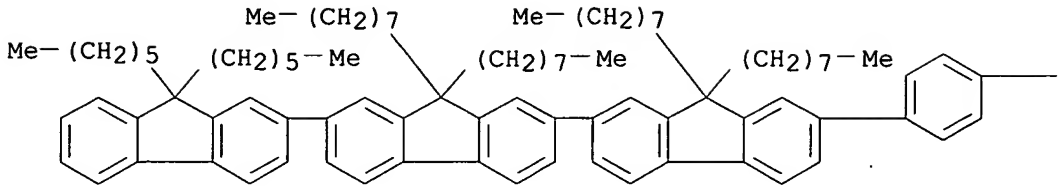


RN 620625-07-2 HCAPLUS
CN Pyridine, 2-[4-(7'-iodo-9,9,9',9'-tetraoctyl[2,2'-bi-9H-fluoren]-7-yl)phenyl]- (9CI) (CA INDEX NAME)

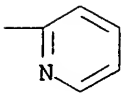


RN 620625-09-4 HCAPLUS
CN Pyridine, 2-[4-(9'',9''-dihexyl-9,9,9',9'-tetraoctyl[2,2':7',2''-ter-9H-fluoren]-7-yl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RE.CNT 66 THERE ARE 66 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 4 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:298656 HCAPLUS
DN 141:30768
TI High-efficiency, saturated red-phosphorescent **polymer** light-emitting diodes based on conjugated and non-conjugated **polymers** doped with an Ir complex
AU Jiang, Changyun; Yang, Wei; Peng, Junbiao; Xiao, Steven; Cao, Yong
CS Institute of Polymer Optoelectronic Materials and Devices, South China University of Technology, Guangzhou, 510640, Peop. Rep. China
SO Advanced Materials (Weinheim, Germany) (2004), 16(6), 537-541
CODEN: ADVMEW; ISSN: 0935-9648
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
AB High-efficiency saturated red-emitting electrophosphorescent **polymer** LEDs are demonstrated using Ir(III) bis(2-phenylquinolyl-N,C2) acetylacetonate (PhqIR) as the dopant and PVK, polyhedral oligomeric silsequioxane-terminated poly(9,9-dioctylfluorene) [PFO(poss)], and hyperbranched polyfluorene-p-substituted triphenylamine as the host **polymers**. The highest external quantum efficiency of 12 ph/el and luminous efficiency of 5.2 cd/A was demonstrated for a 2% PhqIR-doped PFO(poss)-PBD (30 weight%) device. The device efficiency remained high (QEext = 9.7% ph/el, LE = 4.2 cd/A) at a c.d. of 100 mA/cm2. Similar high external quantum efficiencies of >10% for saturated red emission can be realized for both non-conjugated PVK and conjugated PFO **polymer** as the host. The results confirm the recently described importance of the relative triplet levels of the host **polymer** and phosphorescent dyes. Other factors might have an important influence on the external quantum efficiency.
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **38**, 76
ST LED iridium complex doped **polymer** satd red phosphorescent; diode light emitting iridium complex doped **polymer** red phosphorescent; **electroluminescent** device iridium complex doped **polymer**

satd red phosphorescent

IT **Electroluminescent** devices
(high-efficiency saturated red-phosphorescent **polymer** LEDs based on conjugated and non-conjugated **polymers** doped with iridium complex)

IT UV and visible spectra
(of iridium acetylacetonato phenylquinolyl complex)

IT **Luminescence**
(of iridium acetylacetonato phenylquinolyl complex-**polymer** mixts.)

IT 435294-03-4
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(high-efficiency saturated red-phosphorescent **polymer** LEDs based on conjugated and non-conjugated **polymers** doped with)

IT 25067-59-8 **123864-00-6D**, Poly(9,9-dioctylfluorene), polyhedral oligomeric silsequioxane-terminated **350512-01-5D**, hyperbranched
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(**iridium complex**-doped high-efficiency saturated red-phosphorescent LEDs containing)

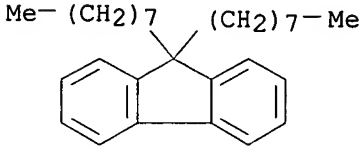
IT 15082-28-7, Butyl-PBD 16152-10-6, 4-(1-Naphthyl)-3,5-diphenyl-1,2,4-triazole
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(iridium complex-doped high-efficiency saturated red-phosphorescent **polymer** LEDs containing)

IT **123864-00-6D**, Poly(9,9-dioctylfluorene), polyhedral oligomeric silsequioxane-terminated **350512-01-5D**, hyperbranched
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(**iridium complex**-doped high-efficiency saturated red-phosphorescent LEDs containing)

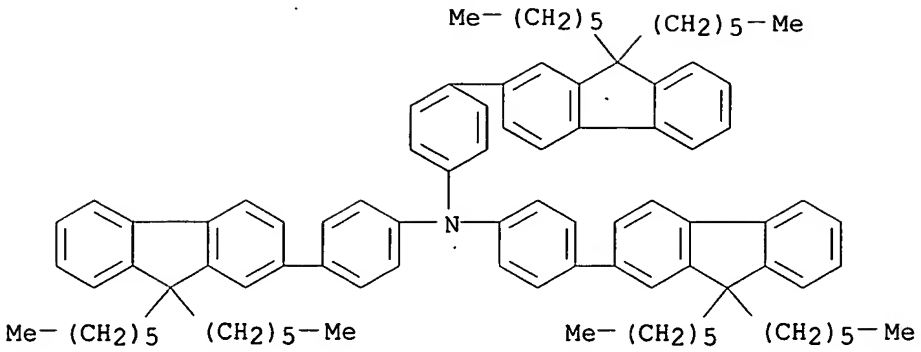
RN 123864-00-6 HCAPLUS
CN 9H-Fluorene, 9,9-dioctyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123863-99-0
CMF C29 H42



RN 350512-01-5 HCAPLUS
CN Benzenamine, 4-(9,9-dihexyl-9H-fluoren-2-yl)-N,N-bis[4-(9,9-dihexyl-9H-fluoren-2-yl)phenyl]- (9CI) (CA INDEX NAME)



RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 5 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:234307 HCAPLUS
DN 141:55025
TI Evolution of lowest singlet and triplet excited states with electronic structure of fluorene group in platinum(II) polyyne **polymers**
AU Wong, Wai-Yeung; Choi, Ka-Ho; Yeung, Chin-Hung; Shi, Jian-Xin; Cheah, Kok-Wai
CS Department of Chemistry, Hong Kong Baptist University, Hong Kong, Hong Kong
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2004), 45(1), 352-353
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal; (computer optical disk)
LA English
AB The design of metal acetylide complexes and **polymers** with unusual optoelectronic and photovoltaic properties has been our long-term interest. An identified problem in OLEDs is the ratio of 3:1 for the generation of non-emissive triplet to emissive singlet excitons on the basis of spin statistics. In view of this, conjugated **polymers** containing transition metal atoms such as platinum have been widely studied by us and others as model systems to explain aspects of the photophysics of excited states in such **polymers** and obtain a clear picture of the spatial extent of the singlet and triplet manifolds. The strong spin-orbit coupling associated with these heavy metals renders the spin-forbidden triplet emission (phosphorescence) partially allowed. Very recently, a comprehensive program was launched in our laboratory on the investigations and development of some novel organometallic **polymers** incorporating fluorene-based auxiliaries. One of the merits here is that the 9-fluorenyl positions can be functionalized easily so that the solubility, the emission and electronic properties as well as the band gaps of the resulting materials can be chemical tuned. In this paper, we report our preliminary results on the synthesis, characterization and **photoluminescent** properties of a series of platinum(II) polyyne **polymers** containing 9-functionalized fluorene spacer units. Our work demonstrated that derivatization at the 9-position of the central fluorene ring by introducing an imine functionality was made possible in this class of metal polyynes, which can afford a series of low band gap transition metal polyynes. The evolution of the singlet and triplet excited states with the fluorene structure of the organic spacers has been investigated. A larger optical gap in such conjugated system leads to a faster rate of

intersystem crossing and hence a more efficient triplet emission results.

CC 37-5 (**Plastics** Manufacture and Processing)
Section cross-reference(s): 29, 73

ST fluorene platinum polyyne singlet triplet excited state

IT Band gap
Excited singlet state
Excited triplet state
Luminescence
(lowest singlet and triplet excited states with electronic structure of fluorene group in platinum polyyne **polymers**)

IT Crystal structure
Molecular structure
(of dinuclear diethynylfluorene-bridged platinum phosphine complex)

IT Polyacetylenes, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(platinum containing; lowest singlet and triplet excited states with electronic structure of fluorene group in platinum polyyne **polymers**)

IT 706786-01-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crystal structure; lowest singlet and triplet excited states with electronic structure of fluorene group in platinum polyyne **polymers**)

IT 706786-02-9P 706786-03-0P 706786-04-1P 706786-05-2P 706786-08-5P
706786-10-9P 706786-12-1P 706786-14-3P 706786-16-5P 706786-18-7P
706786-20-1P 706786-22-3P 706786-24-5P 706786-26-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(lowest singlet and triplet excited states with electronic structure of fluorene group in platinum polyyne **polymers**)

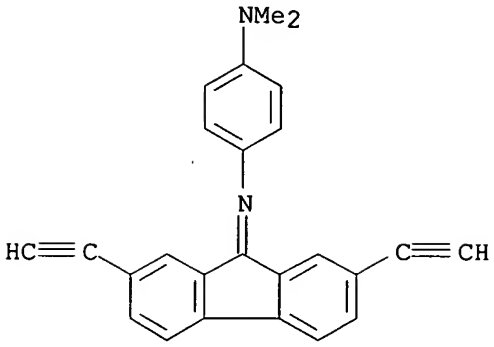
IT 13938-93-7, trans-Chlorobis(triethylphosphine)phenylplatinum
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of dinuclear diethynylfluorene-bridged platinum phosphine complex)

IT **706786-07-4 706786-11-0 706786-15-4**
706786-19-8 706786-23-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of **polymeric** and dinuclear diethynylfluorene-bridged **platinum** phosphine **complexes**)

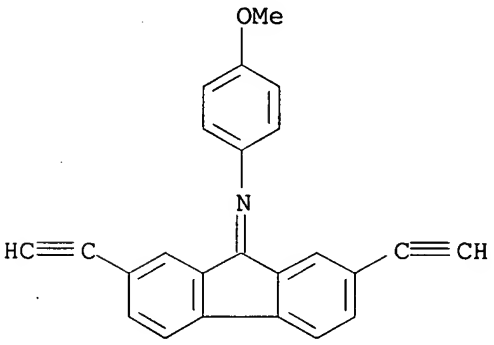
IT **706786-07-4 706786-11-0 706786-15-4**
706786-19-8 706786-23-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of **polymeric** and dinuclear diethynylfluorene-bridged **platinum** phosphine **complexes**)

RN 706786-07-4 HCAPLUS

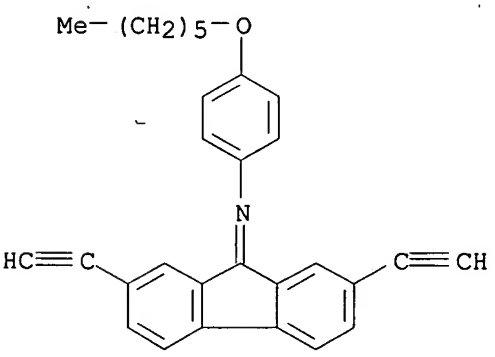
CN 1,4-Benzenediamine, N'-(2,7-diethynyl-9H-fluoren-9-ylidene)-N,N-dimethyl-(9CI) (CA INDEX NAME)



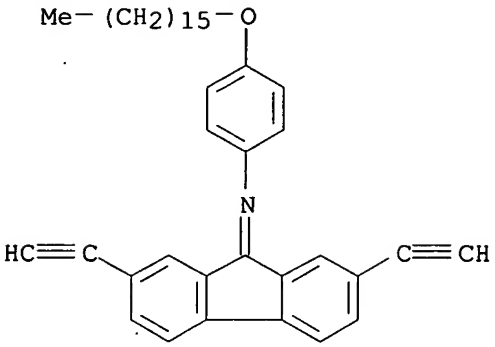
RN 706786-11-0 HCAPLUS
CN Benzenamine, N-(2,7-diethynyl-9H-fluoren-9-ylidene)-4-methoxy- (9CI) (CA INDEX NAME)



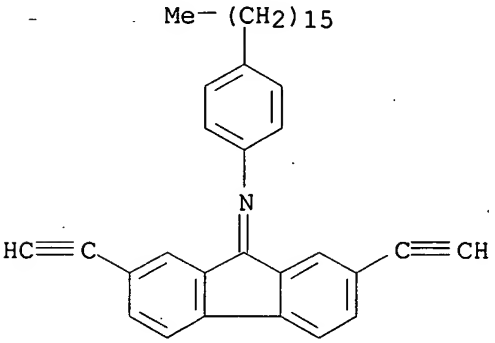
RN 706786-15-4 HCAPLUS
CN Benzenamine, N-(2,7-diethynyl-9H-fluoren-9-ylidene)-4-(hexyloxy)- (9CI) (CA INDEX NAME)



RN 706786-19-8 HCAPLUS
CN Benzenamine, N-(2,7-diethynyl-9H-fluoren-9-ylidene)-4-(hexadecyloxy)- (9CI) (CA INDEX NAME)



RN 706786-23-4 HCAPLUS
CN Benzenamine, N-(2,7-diethynyl-9H-fluoren-9-ylidene)-4-hexadecyl- (9CI) (CA INDEX NAME)



RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 6 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:177928 HCAPLUS
DN 140:235899
TI Rhodium and iridium complexes
IN Stoessel, Philipp; Bach, Ingrid; Spreitzer, Hubert
PA Covion Organic Semiconductors G.m.b.H., Germany
SO Ger. Offen., 19 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10238903	A1	20040304	DE 2002-10238903	20020824
	WO 2004026886	A2	20040401	WO 2003-EP9015	20030814
	WO 2004026886	A3	20040701		
	W: CN, JP, KR, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
PRAI	DE 2002-10238903	A	20020824		

OS MARPAT 140:235899
AB 5'-Mono-, 5',5''-bis-, and 5,5',5'''-tris-(hetero)aryl-functionalized

tris-orthometallated organorhodium and organoiridium compds. are claimed along with a method for their production entailing reaction of an appropriate halogen-functionalized complex with an (hetero)aryl boronic acid or (hetero)aryl boronic acid ester. Mixts. of the organometallic compds. with **polymers** are also described. The compds. are described as phosphorescent emitters. Electronic devices, such as **electroluminescent** devices (where they may be part of the emitting layer), organic integrated circuits, organic field-effect transistors, organic thin-film transistors, solar cells, photovoltaic devices (e.g., organic solar cells and organic photodetectors) and organic solid-state lasers, employing the complexes and mixts. are also described. Thus, fac-tris[2-(2-pyridinyl-κN)(5-bromophenyl)-κC]iridium(III) was reacted with phenylboronic acid to produce fac-tris[2-(2-pyridinyl-κN)[5-(phenyl)phenyl]-κC]iridium(III).

IC ICM C07F015-00

CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 52, 73, 76

ST iridium hetero aryl functionalized ligand complex prepn electronic device; rhodium hetero aryl functionalized ligand complex prepn electronic device

IT **Luminescent** substances
(**electroluminescent**; rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT **Electroluminescent** devices
Field effect transistors
Integrated circuits
Semiconductor lasers
Solar cells
Thin film transistors
(organic; rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT Conducting **polymers**
(polythiophenes, mixts. with metal complexes; rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT Optical detectors
Phosphorescent substances
Photoelectric devices
(rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT 25067-59-8, Polyvinylcarbazole 25190-62-9, Poly(1,4-phenylene) 51555-21-6, Polycarbazole **95270-88-5**, Polyfluorene 192005-02-0, 9,9'-Spirobi[9H-fluorene] homopolymer
RL: DEV (Device component use); USES (Uses)
(mixts. with metal **complexes**; rhodium **complexes** and **iridium complexes** including (hetero)aryl-functionalized ligands and their preparation and use)

IT 7440-16-6D, Rhodium, compds. with (hetero)aryl-functionalized ligands
RL: DEV (Device component use); USES (Uses)
(rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT 667935-05-9P 667935-06-0P 667935-07-1P 667935-08-2P 667935-09-3P 667935-10-6P 667935-20-8P
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT 98-80-6, Benzeneboronic acid 1993-03-9, 2-Fluorobenzeneboronic acid 16419-60-6, 2-Methylbenzeneboronic acid 85199-06-0 144025-03-6, 2,4-Difluorobenzeneboronic acid 156545-07-2, 3,5-Difluorobenzeneboronic

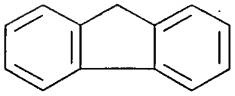
acid 168267-41-2, 3,4-Difluorobenzeneboronic acid 454454-92-3, fac-Tris[2-(2-pyridinyl-κN)(5-bromophenyl)-κC]iridium(III) 667933-70-2 667935-11-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(rhodium complexes and iridium complexes including (hetero)aryl-functionalized ligands and their preparation and use)

IT **95270-88-5**, Polyfluorene
RL: DEV (Device component use); USES (Uses)
(mixts. with metal **complexes**; rhodium **complexes** and **iridium complexes** including (hetero)aryl-functionalized ligands and their preparation and use)

RN 95270-88-5 HCAPLUS
CN 9H-Fluorene, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 86-73-7
CMF C13 H10



L39 ANSWER 7 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:143238 HCAPLUS
DN 140:182406
TI Metallic complexes covalently bound to conjugated **polymers** and electronic devices
IN Herron, Norman; Lecloux, Daniel David; Simmons, Howard E., III; Uckert, Frank P.
PA E. I. Du Pont De Nemours and Company, USA
SO PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DT Patent
LA English

applicants

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004015025	A1	20040219	WO 2003-US23690	20030729
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2004072018	A1	20040415	US 2003-625096	20030722
PRAI	US 2002-399934P	P	20020730		

AB The **polymeric** metal complexes comprise metallic (e.g. La, Pt, Ir, Al) complexes covalently bound to conjugated **polymers** and **luminescent** materials containing such **polymeric** metal complexes. The electronic **luminescent** devices have active layer

that includes such **polymeric** metal complexes. A metal complex of IrOH[2-[2,4-(difluorophenyl)isoquinoline]2]2 (prepared from IrCl3 hydrate and (difluorophenyl)isoquinoline ligand) was prepared, which could be reacted with a copolymer containing fluorenyloxidiazole units.

IC ICM C09K011-06
ICS H05B033-14; H01L051-20; H01L051-30; C08G061-02; C08G061-12

CC 37-3 (**Plastics** Manufacture and Processing)
Section cross-reference(s): 73, 76

ST **electroluminescent** device conjugated **polymer** metal complex

IT **Electroluminescent** devices
(Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 660393-98-6P 660393-99-7P **660394-03-6P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(**Pt**, **Ir**, and Al **complex** with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 660393-99-7DP, fluorenyloxidiazole copolymer complex **660394-03-6DP**, **Ir complex**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**Pt**, **Ir**, and Al **complex** with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 10025-83-9, Iridium trichloride 19493-44-8, 1-Chloroisoquinoline
RL: RCT (Reactant); RACT (Reactant or reagent)
(Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 435294-70-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(hydrolysis; Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 123324-71-0, 4-tert-Butylphenylboronic acid 144025-03-6, 2,4-Difluorophenylboronic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with chloroisoquinoline; Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

IT 525598-48-5P 660393-97-5P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(reaction with iridium trichloride; Pt, Ir, and Al complex with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

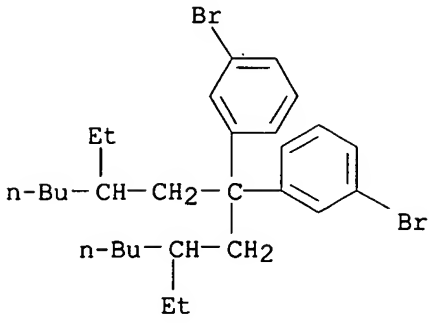
IT **660394-03-6P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(**Pt**, **Ir**, and Al **complex** with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)

RN 660394-03-6 HCAPLUS

CN Benzoic acid, 3,5-dibromo-, methyl ester, polymer with 2,5-bis[7-bromo-9,9-bis(2-ethylhexyl)-9H-fluoren-2-yl]-1,3,4-oxadiazole, 2,7-dichloro-9-(3,7-dimethyloctyl)-9H-carbazole and 1,1'-[3-ethyl-1-(2-ethylhexyl)heptylidene]bis[3-bromobenzene] (9CI) (CA INDEX NAME)

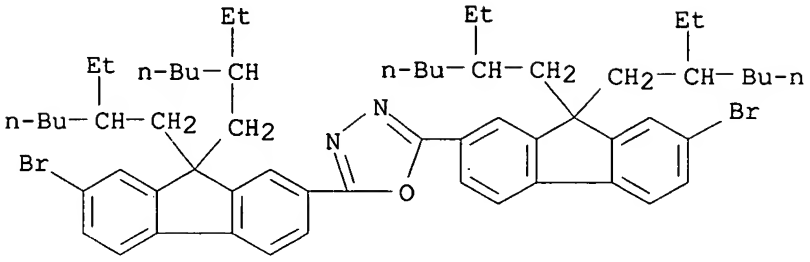
CM 1

CRN 660394-02-5
CMF C29 H42 Br2



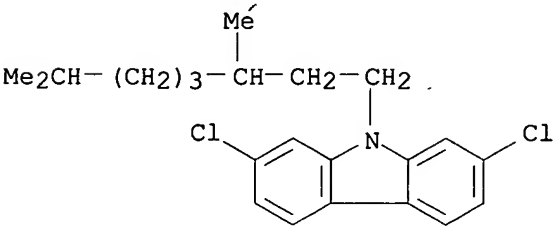
CM 2

CRN 660394-01-4
CMF C60 H80 Br2 N2 O



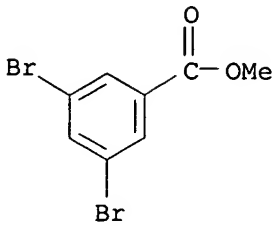
CM 3

CRN 660394-00-3
CMF C22 H27 Cl2 N



CM 4

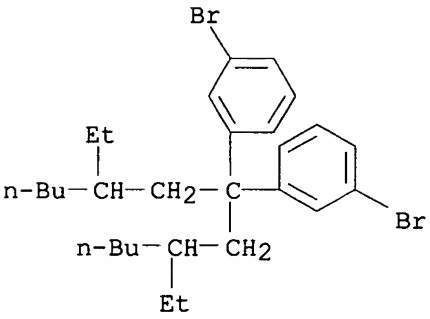
CRN 51329-15-8
CMF C8 H6 Br2 O2



IT **660394-03-6DP, Ir complex**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**Pt, Ir,** and Al **complex** with fluorene, fluorenyloxidiazole, and octylcarbazole copolymer for)
RN 660394-03-6 HCAPLUS
CN Benzoic acid, 3,5-dibromo-, methyl ester, polymer with 2,5-bis[7-bromo-9,9-bis(2-ethylhexyl)-9H-fluoren-2-yl]-1,3,4-oxadiazole, 2,7-dichloro-9-(3,7-dimethyloctyl)-9H-carbazole and 1,1'-[3-ethyl-1-(2-ethylhexyl)heptylidene]bis[3-bromobenzene] (9CI) (CA INDEX NAME)

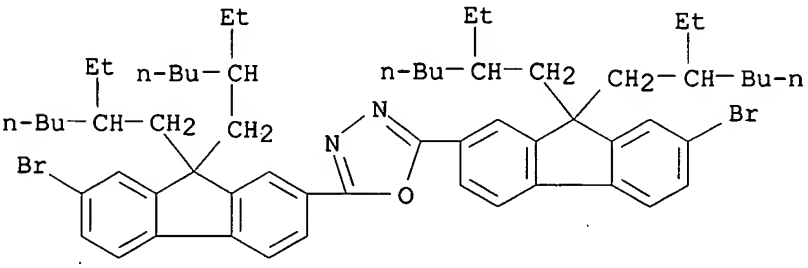
CM 1

CRN 660394-02-5
CMF C29 H42 Br2



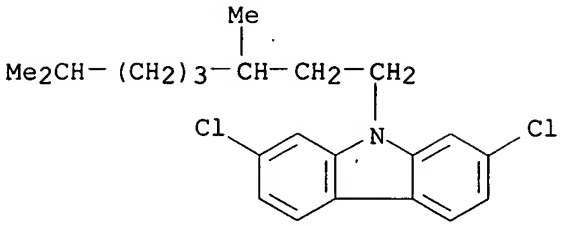
CM 2

CRN 660394-01-4
CMF C60 H80 Br2 N2 O



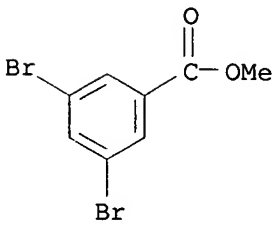
CM 3

CRN 660394-00-3
CMF C22 H27 Cl2 N



CM 4

CRN 51329-15-8
CMF C8 H6 Br2 O2



L39 ANSWER 8 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:112373 HCAPLUS
DN 140:311656
TI Ruthenium(II) Complex as Phosphorescent Dopant for Highly Efficient Red **Polymers** Light-Emitting Diodes
AU Xia, Hong; Zhang, Chengbo; Liu, Xiaodong; Qiu, Song; Lu, Ping; Shen, Fangzhong; Zhang, Jingying; Ma, Yuguang
CS Key Lab for Supramolecular Structure and Materials, Jilin University, Changchun, 130023, Peop. Rep. China
SO Journal of Physical Chemistry B (2004), 108(10), 3185-3190
CODEN: JPCBFK; ISSN: 1520-6106
PB American Chemical Society
DT Journal
LA English
AB Red electrophosphorescence from light-emitting devices based on a Ru(II) complex [Ru(4,7-Ph2-phen)3]2+-doped wide-band-gap semiconductive **polymers**, e.g., poly(vinylcarbazole) (PVK), polydihexylfluorene (PF), and ladder-like polyphenylene (LPPP), as the emitting layer are reported. These **polymers** show the short-wavelength **electroluminescence** emission peaking ranged from 410 to 490 nm, which overlaps well with the absorption band of [Ru(4,7-Ph2-phen)3]2+; however, very efficient energy transfer was studied in the PVK system, likely due to relative long excited-state lifetimes of PVK than that of PF and LPPP and good chemical compatibility of [Ru(4,7-Ph2-phen)3]2+ with PVK.

The EL spectra show the characteristic spectrum of [Ru(4,7-Ph2-phen)3]2+, with a peak at 612 nm and CIE of (0.62, 0.37) which is comparable with standard red color. The optimized device ITO/PVK 5% [Ru(4,7-Ph2-phen)3]2+/PBD/Alq3/LiF/Al shows the maximum luminance efficiency and power efficiency of 8.6 cd/A and 2.1 lm/W, resp.

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **38**, 76

ST ruthenium complex phosphorescent dopant red **polymer** LED

IT **Luminescence**
Luminescence, electroluminescence
UV and visible spectra
(of ruthenium diphenylphenanthroline complex in **polymer**)

IT Polycarbonates, properties
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(ruthenium complex as phosphorescent dopant for highly efficient red LEDs containing)

IT **Electroluminescent** devices
(ruthenium complex as phosphorescent dopant for highly efficient red **polymers** LEDs)

IT 75213-31-9, Tris(4,7-diphenyl-1,10-phenanthroline)ruthenium(2+) diperchlorate
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(as phosphorescent dopant for highly efficient red **polymers** LEDs)

IT 25067-59-8, Poly(vinylcarbazole) 25190-62-9D, Polyp-phenylene, ladder **123863-98-9**, Poly(9,9-dihexylfluorene)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(**ruthenium complex** as phosphorescent dopant for highly efficient red LEDs containing)

IT 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproine 15082-28-7, Butyl-PBD
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(ruthenium complex as phosphorescent dopant for highly efficient red **polymers** LEDs containing)

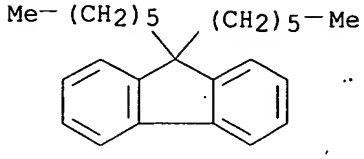
IT **123863-98-9**, Poly(9,9-dihexylfluorene)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(**ruthenium complex** as phosphorescent dopant for highly efficient red LEDs containing)

RN 123863-98-9 HCAPLUS

CN 9H-Fluorene, 9,9-dihexyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123863-97-8
CMF C25 H34



RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 9 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:67338 HCAPLUS
DN 140:294238
TI Phosphorescence from iridium complexes doped into **polymer** blends
AU Gong, Xiong; Lim, Sang-Hyun; Ostrowski, Jacek C.; Moses, Daniel; Bardeen, Christopher J.; Bazan, Guillermo C.
CS Center for Polymers and Organic Solids, University of California at Santa Barbara, Santa Barbara, CA, 93106-5096, USA
SO Journal of Applied Physics (2004), 95(3), 948-953
CODEN: JAPIAU; ISSN: 0021-8979
PB American Institute of Physics
DT Journal
LA English
AB Energy transfer from the **polymer** blends, poly(vinylcarbazole) (PVK) with 2-tert-butylphenyl-5-biphenyl-1,3,4-oxadiazol (PBD), to an organometallic emitter, tris[9,9-dihexyl-2-(phenyl-4'-(-pyridin-2''-yl))fluorene] Ir (III) [Ir(DPPF)3], was studied by steady-state and time-resolved **photoluminescence** (PL) spectroscopy. A red shifted PL and slow fluorescence decay are due to the formation of an exciplex in PVK-PBD blends. A decrease in intensity in **polymer** blends observed at 425 nm with increasing concns. of Ir(DPPF)3 and an evident rising feature observed in films with 1% Ir(DPPF)3 at 578-615 nm within a 200 ns timescale indicate that efficient Forster energy transfer from exciplex to Ir(DPPF)3 occurs. The electrophosphorescent light-emitting diodes fabricated with PVK-PBD doped with Ir(DPPF)3 have external quantum efficiency of 8% ph/el, luminous efficiency of 29 cd/A and brightness >3500 cd/m2 at 1% Ir(DPPF)3. The devices exhibited no **electroluminescence** (EL) emission from PVK or PBD even at a low concentration of Ir(DPPF)3 (0.1%), which indicates that the dominant mechanism in EL is charge trapping rather than energy transfer.
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
ST phosphorescence fluorescence **photoluminescence** iridium complex **polymer** blend LED
IT Energy transfer
(Forster; phosphorescence from iridium complexes doped into **polymer** blends and LEDs based on iridium complexes)
IT Trapping
(effect of; phosphorescence from iridium complexes doped into **polymer** blends and LEDs based on iridium complexes)
IT **Electroluminescent** devices
Exciplex
Fluorescence decay
Luminescence
Luminescence, electroluminescence
Phosphorescence

UV and visible spectra
(phosphorescence from iridium complexes doped into **polymer** blends and LEDs based on iridium complexes)

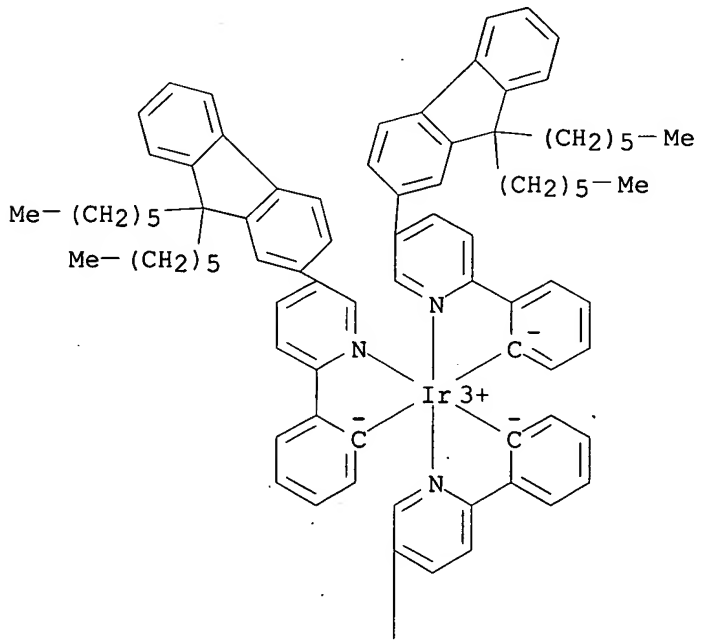
IT 7440-22-4, Silver, uses 7440-70-2, Calcium, uses 50926-11-9, Indium tin oxide
RL: DEV (Device component use); USES (Uses)
(phosphorescence from iridium complexes doped into **polymer** blends and LEDs based on iridium complexes)

IT 15082-28-7 25067-59-8, Poly(vinylcarbazole) 50851-57-5 126213-51-2, PEDOT **602307-74-4**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(phosphorescence from **iridium complexes** doped into **polymer** blends and LEDs based on **iridium complexes**)

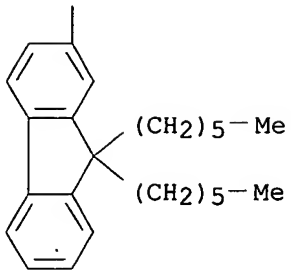
IT **602307-74-4**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(phosphorescence from **iridium complexes** doped into **polymer** blends and LEDs based on **iridium complexes**)

RN 602307-74-4 HCAPLUS
CN Iridium, tris[2-[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-pyridinyl-κN]phenyl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 10 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:25031 HCAPLUS
DN 140:242893
TI Highly efficient red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**
AU Xia, Hong; Zhang, Chengbo; Qiu, Song; Lu, Ping; Zhang, Jingying; Ma, Yuguang
CS Key Lab for Supramolecular Structure and Materials of Ministry of Education, Jilin University, Changchun, 130023, Peop. Rep. China
SO Applied Physics Letters (2004), 84(2), 290-292
CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
AB Red electrophosphorescence from light-emitting devices based on ruthenium(II)-complex [Ru(4,7-Ph2-phen)3]2+-doped wide-band-gap semiconductive **polymers**, i.e., poly(vinylcarbazole) (PVK), polydihexylfluorene (PDHF), and ladderlike polyphenylene (LPPP), as the emitting layers are reported. However, only highly efficient energy transfer was investigated in a PVK system, not only because of the relatively longer lifetime of its excited state compared with PDHF and LPPP, but also because of the good chemical compatibility of [Ru(4,7-Ph2-phen)3]2+ with PVK. The EL spectra show the characteristic spectrum of [Ru(4,7-Ph2-phen)3]2+, at a peak of 612 nm and Commission Internationale del'Eclairage of (0.62, 0.37). The optimized device indium tin oxide/PVK: 5 weight % [Ru(4,7-Ph2-phen)3]2+/PBD/Alq3/LiF/Al shows the maximum luminance efficiency and power efficiency as 8.6 cd/A and 2.1 lm/W, resp.
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **38**, 78
ST red electrophosphorescent device ruthenium diphenyl phenanthroline complex doped **polymer**; PLED energy transfer ruthenium diphenyl phenanthroline complex doped PVK
IT UV and visible spectra
(absorption; absorption and **photoluminescence** of ruthenium(II)-complex in polycarbonate film)
IT Doping
(effect of doping concentration; in red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)
IT **Luminescence, electroluminescence**
(electrophosphorescence; highly efficient red phosphorescent

light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT Polycarbonates, properties
RL: PRP (Properties)
(film; absorption and **photoluminescence** of ruthenium(II)-complex in)

IT Phosphorescence
(highly efficient red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT Electron transfer
(intramol., metal-to-ligand charge transfer; absorption and **photoluminescence** of ruthenium(II)-complex in polycarbonate film)

IT Excited state
(lifetime; of ruthenium(II)-complex)

IT Electric current-potential relationship
(luminance-; for red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT Energy transfer
(**polymer**-to-complex; in red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT **Electroluminescent** devices
(red-emitting, electrophosphorescent; highly efficient red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT 7429-90-5, Aluminum, properties 7440-22-4, Silver, properties 7440-39-3, Barium, properties 7789-24-4, Lithium fluoride, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(electrode layer; highly efficient red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT 2085-33-8, Alq3
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(electron injection layer; highly efficient red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT 75213-31-9, Ruthenium(II) tris(4,7-diphenyl-1,10-phenanthroline) diperchlorate
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(highly efficient red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT 25067-59-8, Poly(vinylcarbazole) **123863-98-9**, Poly(9,9-dihexylfluorene)
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(highly efficient red phosphorescent light-emitting diodes based on **ruthenium**(II)-**complex**-doped semiconductive **polymers**)

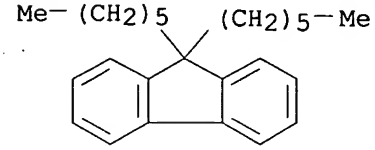
IT 15082-28-7, PBD
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(hole-blocking layer; highly efficient red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT 9033-83-4, Polyphenylene
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(ladderlike; highly efficient red phosphorescent light-emitting diodes based on ruthenium(II)-complex-doped semiconductive **polymers**)

IT **123863-98-9**, Poly(9,9-dihexylfluorene)
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(highly efficient red phosphorescent light-emitting diodes based on **ruthenium**(II)-**complex**-doped semiconductive **polymers**)
RN 123863-98-9 HCAPLUS
CN 9H-Fluorene, 9,9-dihexyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123863-97-8
CMF C25 H34



RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 11 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:875368 HCAPLUS
DN 139:365744
TI Solution-processable phosphorescent materials
IN Holmes, Andrew; Sandee, Albertus; Williams, Charlotte; Koehler, Anna; Evans, Nick
PA Cambridge University Technical Services Limited, UK
SO PCT Int. Appl., 79 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003091355	A2	20031106	WO 2003-GB1765	20030424
	WO 2003091355	A3	20040304		

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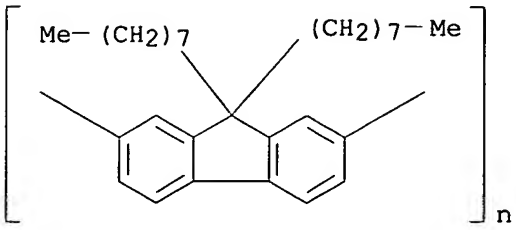
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI GB 2002-9652 A 20020426

AB A material capable of **luminescence** comprising: a **polymer** or oligomer; and an organometallic group characterized in that the **polymer** or oligomer is at least partially conjugated and the organometallic group is covalently bound to the **polymer** or oligomer and the nature, location and/or proportion of the **polymer** or oligomer and of the organometallic group in the material are selected so that the **luminescence** predominantly is phosphorescence. The phosphorescent materials are useful for OLED (organic light-emitting diodes),

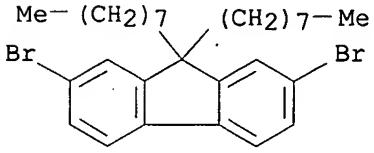
etc.
IC ICM C09K
CC 37-3 (**Plastics** Manufacture and Processing)
Section cross-reference(s): 29, 73, 76
ST OLED phosphorescent material conjugated **polymer** organometallic compd **luminescence**
IT **Electroluminescent** devices
Electroluminescent devices
Fluorescence
(manufacture of solution-processable phosphorescent materials useful for OLED)
IT 7439-88-5DP, Iridium, conjugated **polymer** complexes
63996-36-1DP, 2-(4-Bromophenyl)pyridine, conjugated **polymer** terminated products with, Ir complexes 92220-65-0DP, conjugated **polymer** terminated products **195456-48-5DP**, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl), pyridyphenyl-terminated, **iridium complex 198964-76-0DP**, 2,7-Di(4,4,5,5-tetramethyl-1,3,2-dioxaboronate)-9,9-dioctylfluorene-2,7-dibromo-9,9-dioctylfluorene copolymer, pyridyphenyl-terminated, **iridium complex** 620624-90-0DP, conjugated **polymer** terminated products
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of solution-processable phosphorescent materials useful for OLED)
IT 63996-36-1P, 2-(4-Bromophenyl)pyridine 80389-85-1P 620624-90-0P 620624-92-2P 620624-96-6P 620624-98-8P 620625-01-6P 620625-03-8P 620625-05-0P 620625-07-2P 620625-09-4P 620625-10-7P 620625-11-8P 620625-12-9P 620625-13-0P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(manufacture of solution-processable phosphorescent materials useful for OLED)
IT 106-40-1, p-Bromoaniline 110-86-1, Pyridine, reactions 541-50-4, Acetoacetic acid, reactions 10025-83-9, Iridium chloride (IrCl3) 61676-62-8, 2-Isopropoxy-4,4,5,5-tetramethyl-1,3,2-dioxaborolane 264925-45-3 620624-94-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(manufacture of solution-processable phosphorescent materials useful for OLED)
IT **195456-48-5DP**, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl), pyridyphenyl-terminated, **iridium complex 198964-76-0DP**, 2,7-Di(4,4,5,5-tetramethyl-1,3,2-dioxaboronate)-9,9-dioctylfluorene-2,7-dibromo-9,9-dioctylfluorene copolymer, pyridyphenyl-terminated, **iridium complex**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of solution-processable phosphorescent materials useful for OLED)
RN 195456-48-5 HCAPLUS
CN Poly(9,9-dioctyl-9H-fluorene-2,7-diyl) (9CI) (CA INDEX NAME)



RN 198964-76-0 HCAPLUS
CN 1,3,2-Dioxaborolane, 2,2'-(9,9-dioctyl-9H-fluoren-9-ylidene)bis[4,4,5,5-tetramethyl-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

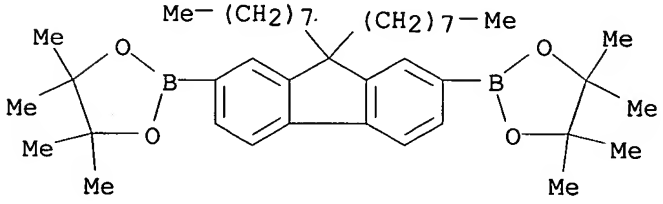
CM 1

CRN 198964-46-4
CMF C29 H40 Br2



CM 2

CRN 196207-58-6
CMF C41 H64 B2 O4



L39 ANSWER 12 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:696977 HCAPLUS
DN 139:237464
TI Phosphors, production process and phosphorescent composites for inkjet printing production of **electroluminescent** devices
IN Eriyama, Yuichi; Yasuda, Hiroyuki; Sakakibara, Mitsuhiko
PA JSR Corporation, Japan
SO PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	WO 2003072680	A1	20030904	WO 2003-JP2206	20030227
	W: KR, US				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR				
	JP 2003253258	A2	20030910	JP 2002-54228	20020228
	US 2004091739	A1	20040513	US 2003-469997	20030916
PRAI	JP 2002-54228	A	20020228		
	WO 2003-JP2206	W	20030227		

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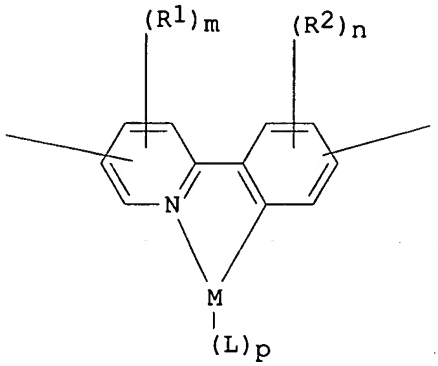


I

AB The invention refers to phosphors containing structural unit I [M = di- to tetra-valent metal atom; R1,2 = H or monovalent halo, alkyl or aryl; L = organic ligand; m,n = 1 - 3; p = 1 - 4], suitable for use in inkjet processes to form **electroluminescent** devices, and having mol. weight ≥ 500, its production process and phosphorescent materials containing the phosphors.

IC ICM C09K011-06
ICS H05B033-14; C08G061-12

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST phosphor inkjet printing **electroluminescent** device

IT **Electroluminescent** devices
Ink-jet printing
Phosphors
(phosphors, production process and phosphorescent composites for inkjet printing production of **electroluminescent** devices)

IT 7439-88-5DP, Iridium, **polymer** complexes **286438-50-4DP**, 2,7-Dibromo-9,9-dioctylfluorenehomopolymer, 2-pyridyl end capped, **iridium complexes 593288-29-0DP**, **iridium complexes 593288-30-3DP**, **iridium complexes** 593288-31-4DP, iridium complexes **593288-32-5DP**, **iridium complexes**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(phosphors, production process and phosphorescent composites for inkjet printing production of **electroluminescent** devices)

IT 612-96-4, 2-Phenylquinoline 391250-41-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphors, production process and phosphorescent composites for inkjet printing production of **electroluminescent** devices)

IT 123-54-6, Acetylacetone, reactions 1008-89-5, 2-Phenylpyridine

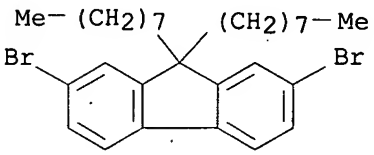
10025-83-9, Iridium chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of iridium complexes)

IT **286438-50-4DP**, 2,7-Dibromo-9,9-dioctylfluorenehomopolymer, 2-pyridyl end capped, **iridium complexes**
593288-29-0DP, **iridium complexes**
593288-30-3DP, **iridium complexes**
593288-32-5DP, **iridium complexes**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(phosphors, production process and phosphorescent composites for inkjet printing production of **electroluminescent** devices)

RN 286438-50-4 HCAPLUS
CN 9H-Fluorene, 2,7-dibromo-9,9-dioctyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

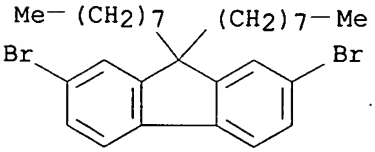
CRN 198964-46-4
CMF C29 H40 Br2



RN 593288-29-0 HCAPLUS
CN Pyridine, 2,5-dibromo-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

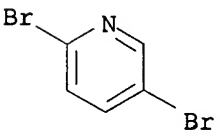
CM 1

CRN 198964-46-4
CMF C29 H40 Br2



CM 2

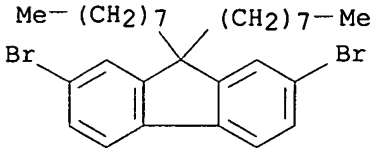
CRN 624-28-2
CMF C5 H3 Br2 N



RN 593288-30-3 HCAPLUS
CN Pyridine, 2,6-dibromo-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

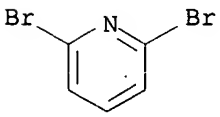
CM 1

CRN 198964-46-4
CMF C29 H40 Br2



CM 2

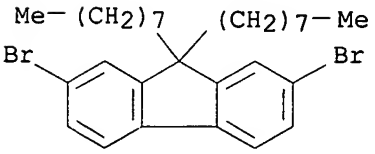
CRN 626-05-1
CMF C5 H3 Br2 N



RN 593288-32-5 HCAPLUS
CN Pyridine, 2,6-bis(4-chlorophenyl)-, polymer with 2,7-dibromo-9,9-dioctyl-9H-fluorene (9CI) (CA INDEX NAME)

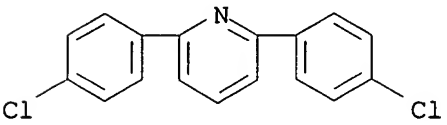
CM 1

CRN 198964-46-4
CMF C29 H40 Br2



CM 2

CRN 33777-86-5
CMF C17 H11 Cl2 N

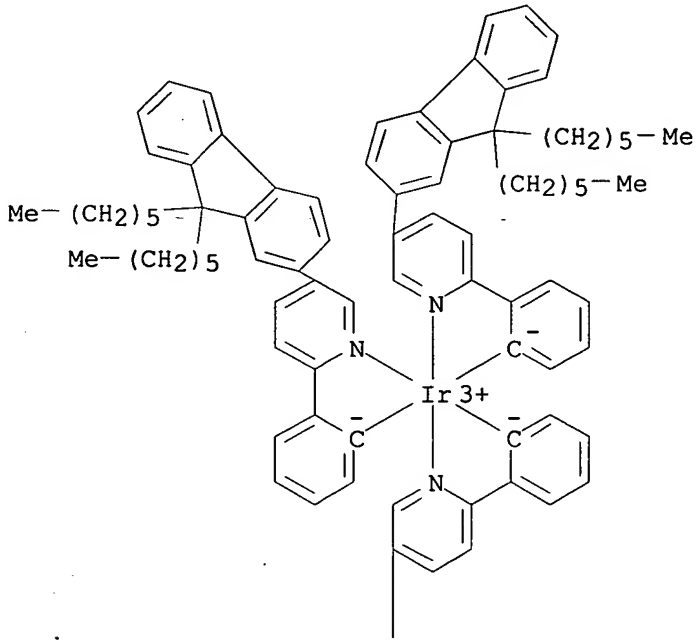


RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

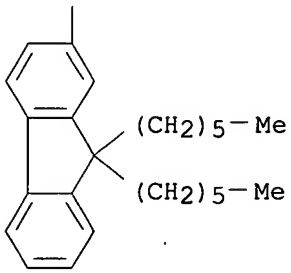
L39 ANSWER 13 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:539565 HCAPLUS
DN 139:267852
TI Temperature dependence of electronic energy transfer from a **polymer** host to a triplet emitter in light emitting diode materials
AU Lim, Sang-Hyun; Gong, Xiong; Ostrowski, Jacek; Bazan, Guillermo C.; Moses, Daniel; Bardeen, Christopher J.
CS Department of Chemistry, University of Illinois, Urbana, IL, 61801, USA
SO Chemical Physics Letters (2003), 376(1,2), 55-61
CODEN: CHPLBC; ISSN: 0009-2614
PB Elsevier Science B.V.
DT Journal
LA English
AB The authors investigate the temperature dependence of electronic energy transfer between a **polymer** host, poly(N-vinylcarbazole) blended with 2-(4-biphenylyl)-5-(4-tert-butylphenyl)-1,3,4-oxadiazole, and the triplet emitter tris[9,9-dihexyl-2-(phenyl-4'-(pyridin-2''-yl))fluorene] iridium(III) (Ir(DPPF)3). The photophysics of the blend are similar to those of neat poly(N-vinylcarbazole), with two emitting species corresponding to shallow and deep excimer traps. When the blend is doped with Ir(DPPF)3, the deep trap emission is preferentially quenched. This quenching cannot be explained by simple Forster energy transfer to the dopant. Instead, the data are consistent with a rapid, temperature-dependent partitioning of the energy between the two host species and the Ir(DPPF)3, each of which decays independently.
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
ST electronic energy transfer **polymer** host triplet emitter LED
IT **Luminescent** substances
(**electroluminescent**; temperature dependence of electronic energy transfer from poly(vinylcarbazole) host to Ir(III) complex triplet emitter in light emitting diode materials)
IT **Electroluminescent** devices
Electronic energy transfer
Luminescence
Phosphorescence
(temperature dependence of electronic energy transfer from poly(vinylcarbazole) host to Ir(III) complex triplet emitter in light emitting diode materials)
IT 15082-28-7, 2-(4-Biphenylyl)-5-(4-tert-butylphenyl)-1,3,4-oxadiazole
25067-59-8, Poly(N-vinylcarbazole)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(host blend; temperature dependence of electronic energy transfer from poly(vinylcarbazole) host to Ir(III) complex triplet emitter in light emitting diode materials)
IT **602307-74-4**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(triplet emitter; temperature dependence of electronic energy transfer from poly(vinylcarbazole) host to **Ir**(III) **complex** triplet emitter in light emitting diode materials)

IT **602307-74-4**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(triplet emitter; temperature dependence of electronic energy transfer from poly(vinylcarbazole) host to **Ir**(III) **complex**
triplet emitter in light emitting diode materials)
RN 602307-74-4 HCAPLUS
CN Iridium, tris[2-[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-pyridinyl-κN]phenyl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 14 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:513702 HCAPLUS

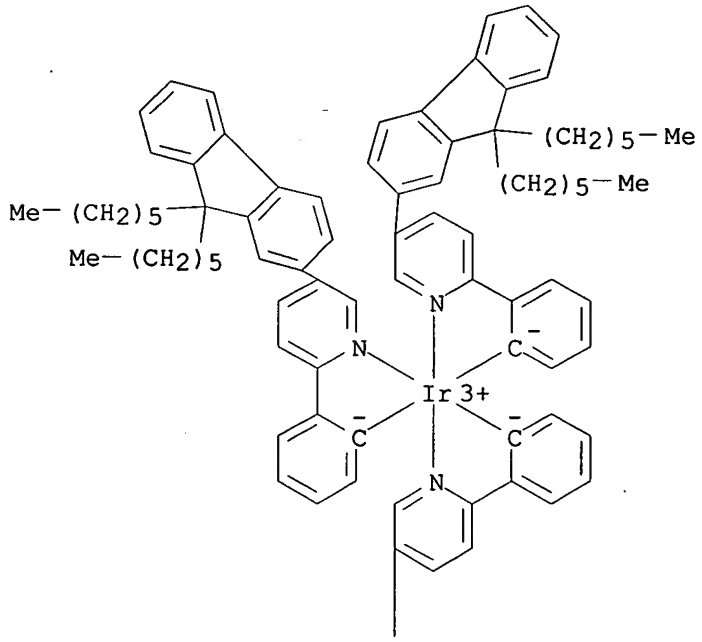
DN 139:299096
TI Electrophosphorescence from a **polymer** guest-host system with an iridium complex as guest: Forster energy transfer and charge trapping
AU Gong, Xiong; Ostrowski, Jacek C.; Moses, Daniel; Bazan, Guillermo C.; Heeger, Alan J.
CS Center for Polymers and Organic Solids, University of California at Santa Barbara, Santa Barbara, CA, 93106-5096, USA
SO Advanced Functional Materials (2003), 13(6), 439-444
CODEN: AFMDC6; ISSN: 1616-301X
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
AB The authors report high-efficiency green electrophosphorescent light-emitting diodes obtained by using tris[9,9-dihexyl-2-(phenyl-4'-(pyridin-2''-yl))fluorene]iridium(III) (Ir(DPPF)3) as the guest, and a blend of poly(vinylcarbazole) (PVK) with 2-tert-butylphenyl-5-biphenyl-1,3,4-oxadiazol (PBD) as the host. The electrophosphorescent emission is characteristic of Ir(DPPF)3, with its maximum at 550 nm. An external quantum efficiency of 8% photons per electron and luminous efficiency of 29 cd A-1, with maximum brightness of 3500 cd m-2, were achieved at 1 weight-% concentration of Ir(DPPF)3. The devices exhibited no emission from PVK or PBD, even at the lowest concentration of Ir(DPPF)3 (0.1 weight-%). Forster energy transfer plays a minor role in achieving high efficiencies in these devices. Direct charge trapping appears to be the main operating mechanism.
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 73
ST electrophosphorescence LED **polymer** host iridium complex guest
IT UV and visible spectra
(absorption; high-efficiency green electrophosphorescent light-emitting diodes using **polymer** guest-host system with iridium complex guest)
IT **Electroluminescent** devices
(displays; high-efficiency green electrophosphorescent light-emitting diodes using **polymer** guest-host system with iridium complex guest)
IT Phosphorescence
(elec. field-induced; high-efficiency green electrophosphorescent light-emitting diodes using **polymer** guest-host system with iridium complex guest)
IT **Luminescent** screens
(**electroluminescent**; high-efficiency green electrophosphorescent light-emitting diodes using **polymer** guest-host system with iridium complex guest)
IT Absorption spectra
Luminescence
Luminescence, electroluminescence
Photoinduced energy transfer
Trapping
(high-efficiency green electrophosphorescent light-emitting diodes using **polymer** guest-host system with iridium complex guest)
IT **602307-74-4**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(guest; high-efficiency green electrophosphorescent light-emitting diodes using **polymer** guest-host system with **iridium complex** guest)
IT 15082-28-7, 2-tert-Butylphenyl-5-biphenyl-1,3,4-oxadiazol 25067-59-8,

Poly(vinylcarbazole)
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(host blend; high-efficiency green electrophosphorescent light-emitting diodes using **polymer** guest-host system with iridium complex guest)

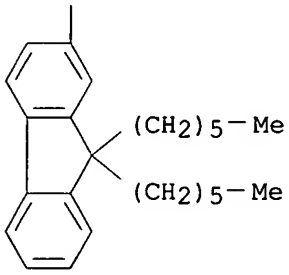
IT **602307-74-4**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(guest; high-efficiency green electrophosphorescent light-emitting diodes using **polymer** guest-host system with **iridium complex** guest)

RN 602307-74-4 HCAPLUS
CN Iridium, tris[2-[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-pyridinyl-κN]phenyl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



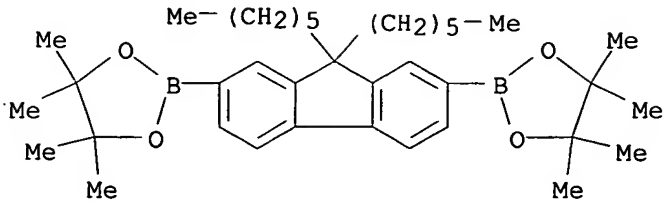
RE.CNT 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 15 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:413424 HCAPLUS
DN 139:156782
TI Novel polyfluorene derivatives containing **luminescence** rhenium (I) complex in main chain
AU Zhang, Ming; Lu, Ping; Ma, Yuguang; Li, Guowen; Shen, Jiacong
CS Key Lab of Supramolecular Structure and Materials, Jilin University, Changchun, 130023, Peop. Rep. China
SO Synthetic Metals (2003), 135-136, 211-212
CODEN: SYMEDZ; ISSN: 0379-6779
PB Elsevier Science B.V.
DT Journal
LA English
AB The novel polyfluorene derivs. containing **luminescence** Re (I) complex in main chain were synthesized and well characterized by structure anal. The incorporation of Re (I) into the **polymer** backbone result in the red shift of absorption and the presence of new peak at .apprx.520nm in emission spectra.
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **36, 38**
ST polyfluorene rhenium complex **luminescence** UV spectrum
IT **Luminescence**
NMR (nuclear magnetic resonance)
UV and visible spectra
(of polyfluorene derivs. containing **luminescence** rhenium complex in main chain)
IT **570391-98-9DP, rhenium** carbonyl chloride **complexes**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyfluorene derivs. containing **luminescence rhenium complex** in main chain)
IT 14099-01-5, Rhenium pentacarbonyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(polyfluorene derivs. containing **luminescence** rhenium complex in main chain)
IT **570391-98-9P 570391-99-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(polyfluorene derivs. containing **luminescence rhenium complex** in main chain)
IT **570391-98-9DP, rhenium** carbonyl chloride **complexes**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(polyfluorene derivs. containing **luminescence rhenium complex** in main chain)
RN 570391-98-9 HCAPLUS
CN 2,2'-Bipyridine, 5,5'-dibromo-, polymer with 2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

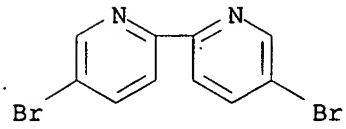
CM 1

CRN 254755-24-3
CMF C37 H56 B2 O4



CM 2

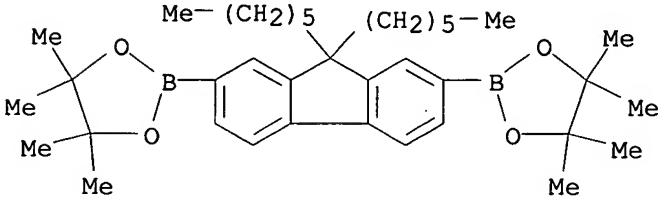
CRN 15862-18-7
CMF C10 H6 Br2 N2



IT **570391-98-9P 570391-99-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(polyfluorene derivs. containing **luminescence rhenium complex** in main chain)
RN 570391-98-9 HCAPLUS
CN 2,2'-Bipyridine, 5,5'-dibromo-, polymer with 2,2'-(9,9-dihexyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

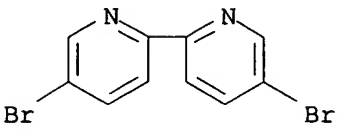
CM 1

CRN 254755-24-3
CMF C37 H56 B2 O4

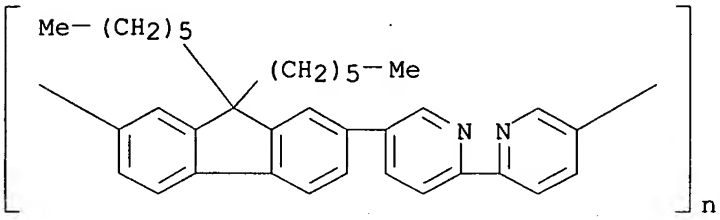


CM 2

CRN 15862-18-7
CMF C10 H6 Br2 N2



RN 570391-99-0 HCAPLUS
CN Poly[[2,2'-bipyridine]-5,5'-diyl(9,9-dihexyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 16 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:194610 HCAPLUS
DN 138:229013
TI Organic **electroluminescent** devices, metal complex-bound macromolecules therefor, and preparation thereof
IN Kamatani, Atsushi; Takiguchi, Takao; Igawa, Satoshi; Okada, Shinjiro; Tsuboyama, Akira
PA Canon Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003073480	A2	20030312	JP 2001-267233	20010904
	WO 2003022908	A1	20030320	WO 2002-JP8804	20020830
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1426399	A1	20040609	EP 2002-765384	20020830
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
	US 2003186080	A1	20031002	US 2002-258241	20021022
PRAI	JP 2001-267110	A	20010904		

JP 2001-267233 A 20010904
WO 2002-JP8804 W 20020830

AB The devices contain macromols. binding at skeleton-constituting atoms to Ir atoms of Ir-C or -O bond-bearing Ir complexes, in emission layers and exhibit high **luminescent** efficiency and less time deterioration. Also claimed are phospho- or fluorescent macromols. binding M-O or -C bond-containing M complexes (M = Pt, Rh, Ru, Os, Au, Pd, Cu, or Co) at skeleton-constituting atoms. Preparation of the macromols. by reaction of the above metal complexes with (precursors of) **polymers** containing C or O in skeletons (followed by copolymn.) is also claimed.

IC ICM C08G085-00
ICS C09K011-06; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29, **38**

ST **electroluminescent** device metal complex bound phosphorescent macromol; fluorescent iridium complex bound macromol LED emission layer

IT Fluorescent substances
Phosphorescent substances
(electro-, emission layers; organic LED containing **photoluminescent** Ir complex **polymers** and showing high efficiency and less time deterioration)

IT **Luminescent** substances
(**electroluminescent**; organic LED containing **photoluminescent** Ir complex **polymers** and showing high efficiency and less time deterioration)

IT **Polymers**, uses
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(metal-containing, **photoluminescent**; organic LED containing **photoluminescent** Ir complex **polymers** and showing high efficiency and less time deterioration)

IT **Electroluminescent** devices
(organic; organic LED containing **photoluminescent** Ir complex **polymers** and showing high efficiency and less time deterioration)

IT Coordination compounds
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(**polymer**-bound, emission layers; organic LED containing **photoluminescent** Ir complex **polymers** and showing high efficiency and less time deterioration)

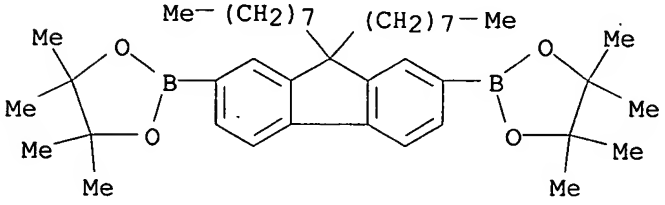
IT 612-94-2DP, 2-Phenylnaphthalene, complexes with iridium and alkylfluorene **polymers** 1008-89-5DP, 2-Phenylpyridine, complexes with iridium and alkylfluorene **polymers** 7439-88-5DP, Iridium, complexes with alkylfluorene **polymers** and phenylpyridine **473914-21-5DP, complexes** with **iridium** and phenylpyridine
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(emission layers; organic LED containing **photoluminescent Ir complex polymers** and showing high efficiency and less time deterioration)

IT **473914-21-5DP, complexes** with **iridium** and phenylpyridine
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(emission layers; organic LED containing **photoluminescent Ir complex polymers** and showing high efficiency and less

time deterioration)
RN 473914-21-5 HCAPLUS
CN Pyridine, 2,5-dibromo-, polymer with 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

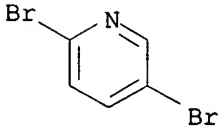
CM 1

CRN 196207-58-6
CMF C41 H64 B2 O4



CM 2

CRN 624-28-2
CMF C5 H3 Br2 N



L39 ANSWER 17 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:194609 HCAPLUS
DN 138:245322
TI Organic **electroluminescent** devices, macromolecules binding **metal complexes** therefor, and preparation thereof
IN Igawa, Satoshi; Takiguchi, Takao; Kamatani, Atsushi; Okada, Shinjiro; Tsuboyama, Akira
PA Canon Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2003073479	A2	20030312	JP 2001-267110	20010904
WO 2003022908	A1	20030320	WO 2002-JP8804	20020830

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1426399 A1 20040609 EP 2002-765384 20020830
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK

US 2003186080 A1 20031002 US 2002-258241 20021022

PRAI JP 2001-267110 A 20010904
JP 2001-267233 A 20010904
WO 2002-JP8804 W 20020830

AB The devices contain macromols. having (conjugated skeletons and) side chains binding to Ir complexes which contain Ir-C or -O bonds, in emission layers and exhibit high **luminescent** efficiency and minimized time deterioration. Also claimed are phosphorescent macromols. binding M-O or -C bond-containing complexes (M = Pt, Rh, Ru, Os, Au, Pd, Cu, or Co) at side chains. Preparation of the macromols. by reaction of conjugated **polymers** with the above **metal complexes** is also claimed.

IC ICM C08G085-00
ICS C09K011-06; H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **38**

ST **electroluminescent** device **metal complex** bound phosphorescent macromol; phenylpyridineiridium branched dialkoxyfluorene **polymer** electrophosphorescent LED

IT Phosphorescent substances
(electro; high-efficiency organic LED containing Ir complex-branched alkoxyfluorene **polymers** in emission layers)

IT **Luminescent** substances
(**electroluminescent**; high-efficiency organic LED containing Ir complex-branched alkoxyfluorene **polymers** in emission layers)

IT **Electroluminescent** devices
(organic; high-efficiency organic LED containing Ir complex-branched alkoxyfluorene **polymers** in emission layers)

IT Coordination compounds
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(**polymer**-bound, emission layers; high-efficiency organic LED containing Ir complex-branched alkoxyfluorene **polymers** in emission layers)

IT **501330-38-7P 501330-40-1P**
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(emission layers; high-efficiency organic LED containing **Ir complex**-branched alkoxyfluorene **polymers** in emission layers)

IT 501330-36-5P 501330-37-6P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(high-efficiency organic LED containing Ir complex-branched alkoxyfluorene **polymers** in emission layers)

IT 10025-83-9, Iridium chloride 52642-16-7, Phenylpyridine 63996-36-1 135145-90-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(high-efficiency organic LED containing Ir complex-branched alkoxyfluorene **polymers** in emission layers)

IT **501330-38-7P 501330-40-1P**

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(emission layers; high-efficiency organic LED containing **Ir complex**-branched alkoxyfluorene **polymers** in emission layers)

RN 501330-38-7 HCAPLUS
CN Iridium, [2',5'-dichloro-4-(2-pyridinyl-κN)[1,1'-biphenyl]-3-yl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC]-, polymer with 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

CM 1

CRN 501330-37-6
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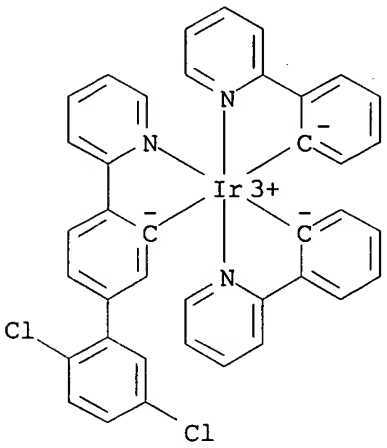
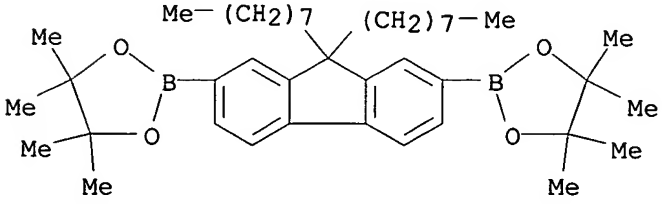
CCI CCS



CM 2

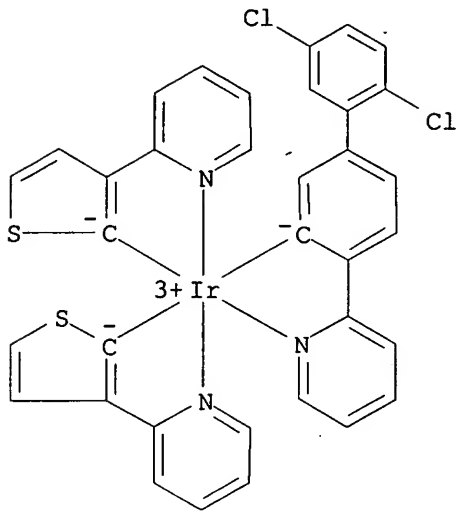
CRN 196207-58-6
CMF C41 H64 B2 O4



RN 501330-40-1 HCAPLUS
CN Iridium, [2',5'-dichloro-4-(2-pyridinyl-κN)[1,1'-biphenyl]-3-yl-κC]bis[2-(2-pyridinyl-κN)phenyl-κC]-, polymer with [2',5'-dichloro-4-(2-pyridinyl-κN)[1,1'-biphenyl]-3-yl-κC]bis[3-(2-pyridinyl-κN)-2-thienyl-κC]iridium and 2,2'-(9,9-dioctyl-9H-fluorene-2,7-diyl)bis[4,4,5,5-tetramethyl-1,3,2-dioxaborolane] (9CI) (CA INDEX NAME)

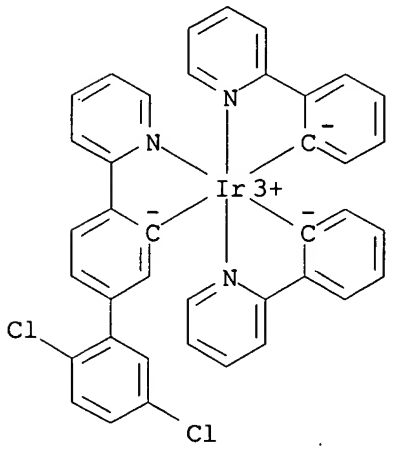
CM 1

CRN 501330-39-8
CMF C35 H22 Cl2 Ir N3 S2
CCI CCS



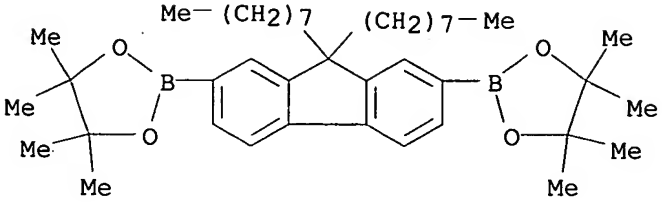
CM 2

CRN 501330-37-6
CMF C39 H26 Cl2 Ir N3
CCI CCS



CM 3

CRN 196207-58-6
CMF C41 H64 B2 O4



L39 ANSWER 18 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:189467 HCAPLUS
DN 139:101243
TI New ferrocenyl heterometallic complexes of 2,7-diethynylfluoren-9-one
AU Wong, Wai-Yeung; Ho, Ka-Yan; Choi, Ka-Ho
CS Department of Chemistry, Hong Kong Baptist University, Hong Kong, Peop. Rep. China
SO Journal of Organometallic Chemistry (2003), 670(1-2), 17-26
CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 139:101243
AB A new series of rigid-rod alkynylferrocenyl precursors with a central fluoren-9-one bridge, 2-bromo-7-(2-ferrocenylethynyl)fluoren-9-one (1), 2-trimethylsilylethynyl-7-(2-ferrocenylethynyl)fluoren-9-one (2) and 2-ethynyl-7-(2-ferrocenylethynyl)fluoren-9-one (3), were prepared in moderate to good yields. Ferrocenylacetylene complex 3 provided direct access to novel heterometallic complexes, trans-[(η5-C5H5)Fe(η5-C5H4)C.tplbond.CRC.tplbond.CPt(PEt3)2Ph] (4), trans-[(η5-C5H5)Fe(η5-C5H4)C.tplbond.CRC.tplbond.CPt(PBu3)2C.tplbond.CRC.tplbond.C(η5-C5H4)Fe(η5-C5H5)] (5), [(η5-C5H5)Fe(η5-C5H4)C.tplbond.CRC.tplbond.CAu(PPh3)] (6) and [(η5-C5H5)Fe(η5-C5H4)C.tplbond.CRC.tplbond.CHgMe] (7) (R = fluoren-9-one-2,7-diyl), following CuI-catalyzed dehydrohalogenation reactions with the appropriate metal chloride compds. All new complexes were characterized by FTIR, 1H-NMR and UV-vis spectroscopy, and fast atom bombardment mass spectrometry. The solid state mol. structures of 3, 5, 6 and 7 were established by X-ray crystallog. The redox chemical of these mixed-metal species was investigated by cyclic voltammetry and oxidation of the ferrocenyl moiety was facilitated by the presence of the heavy metal center and increased conjugation in the chain through the ethynyl and fluorenone linkage units.
CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 72, 75
ST gold mercury platinum ethynylferrocenylethynylfluorenone complex prepn structure steric effect; ethynylferrocenylethynylfluorenone prepn structure dehydrochlorination gold mercury platinum chloride complex; bromoferrocenylethynylfluorenone prepn cross coupling silylacetylene; ethynylferrocene Sonogashira coupling bromofluorenone; UV electron delocalization conjugation gold mercury platinum ethynylferrocenylethynylfluorenone complex; redox potential gold mercury platinum ethynylferrocenylethynylfluorenone complex; crystal structure gold mercury platinum ethynylferrocenylethynylfluorenone complex; mol structure gold mercury platinum ethynylferrocenylethynylfluorenone complex
IT Coupling reaction
(Sonogashira; preparation, structure, UV-vis spectra, and electrochem. of

gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT Transition **metal complexes**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(alkyne **complexes**, gold, mercury, platinum; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT Redox reaction
(electrochem.; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT Metallocenes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(ferrocene; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT Redox potential
(half wave; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT Crystal structure
Molecular structure
(of ethynyl(ferrocenylethynyl)fluorenone and gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone complexes)

IT Conjugation (bond)
Dehydrochlorination
Electron delocalization
Steric effects
UV and visible spectra
(preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT Half wave potential
(redox; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT Alkynes
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(transition **metal complexes**, gold, mercury, platinum; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT 1271-47-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(Sonogashira coupling with dibromofluorenone; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT 14348-75-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(Sonogashira coupling with ethynylferrocene; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT 557077-04-0P 557077-05-1P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(UV-vis spectra, redox potential; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT 557077-07-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(UV-vis spectra, redox potential; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT 557077-06-2P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(crystal structure, UV, redox potential, dehydrochlorination with metal chlorides; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT **557077-08-4P** 557077-10-8P 557077-13-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crystal structure, UV-vis spectra, redox potential; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT 13938-93-7 14243-64-2 15391-01-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehydrochlorination with ethynyl(ferrocenylethynyl)fluorenone; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT 115-09-3, Methylmercuric chloride
RL: MSC (Miscellaneous)
(preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT 1066-54-2, Trimethylsilylacetylene
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

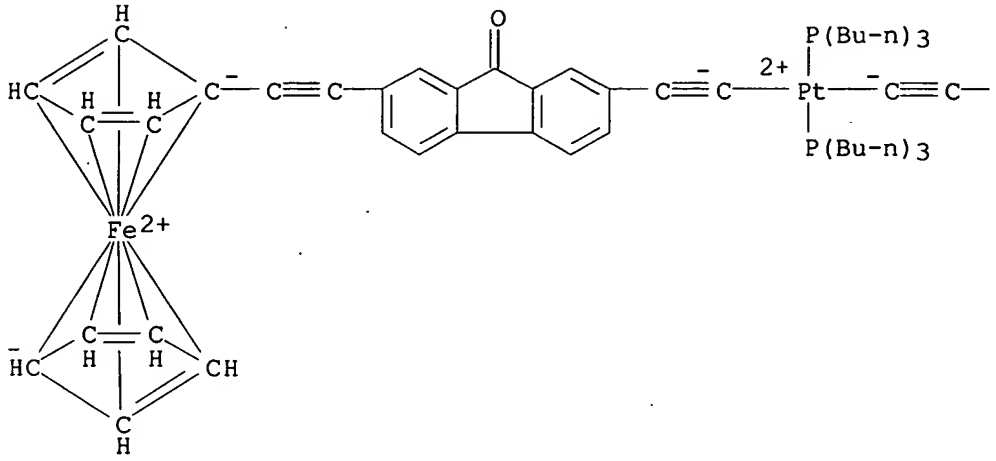
IT 400716-21-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

IT **557077-08-4P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crystal structure, UV-vis spectra, redox potential; preparation, structure, UV-vis spectra, and electrochem. of gold, mercury, and platinum ethynyl(ferrocenylethynyl)fluorenone heterometallic complexes)

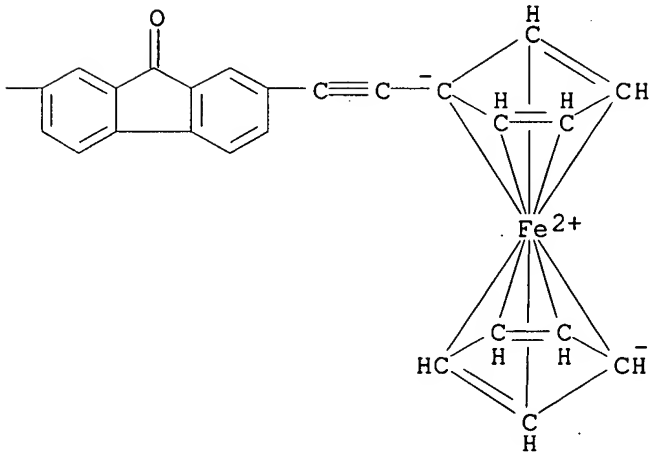
RN 557077-08-4 HCAPLUS

CN Platinum, bis[[7-(ferrocenylethynyl)-9-oxo-9H-fluoren-2-yl]ethynyl]bis(tributylphosphine)-, (SP-4-1)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RE.CNT 72 THERE ARE 72 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 19 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:173615 HCAPLUS
DN 138:214474
TI Preparation of targeted bisplatinum polyamines as pro-drugs: selective release of platinum
IN Farrell, Nicholas; Hegmans, Alexander; Roberts, John D.
PA Virginia Commonwealth University, USA
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003018594	A1	20030306	WO 2002-US26629	20020822
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003114433	A1	20030619	US 2002-225436	20020822
	EP 1427739	A1	20040616	EP 2002-768645	20020822
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				
PRAI	US 2001-313818P	P	20010822		
	WO 2002-US26629	W	20020822		

OS MARPAT 138:214474

AB Pro-drug forms of linear polyamine-bridged platinum compds., [(X)(Y)(Z)Pt(μ-A)Pt(X')(Y')(Z')]n+ (A = protected polyamine, ligands X, X', Y, Y', Z and Z' may be the same or different), and methods for their production and use are provided. The polyamine-bridge portion of the compds. is based on spermine or spermidine, and the central amines of the polyamine-bridge are chemical bonded to labile blocking groups. The presence of the blocking groups serves to minimize the toxicity of the Pt compds. upon administration. Selective removal of the blocking groups and release of the active, unblocked species occurs upon exposure to suitable environmental conditions. Thus, [{trans-Pt(NH3)2Cl}-μ-(N4-BOC-spermidine-N1,N8)]Cl2 was prepared, its kinetic rate constant of hydrolysis was determined and its activity against leukemia and human ovarian cell lines was measured. The protecting groups used for protecting the N4 site of spermidine were BOC, CBz, Fmoc, acetyl, chloroacetyl and trifluoroacetyl.

IC ICM C07F015-00

CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 1, 63

ST platinum spermidine dinuclear prepn hydrolysis prodrug antitumor agent; polyamine platinum dinuclear prepn prodrug antitumor agent

IT Platinum-group **metal complexes**
RL: CPS (Chemical process); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(ammines; preparation and hydrolysis kinetics of bisplatinum polyamine-bridged complexes as antitumor agent prodrugs)

IT Hydrolysis
Hydrolysis kinetics
(of bisplatinum complexes with protected spermidine as antitumor agent prodrugs)

IT Amines, preparation
RL: CPS (Chemical process); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(platinum complexes; preparation and hydrolysis kinetics of bisplatinum polyamine-bridged complexes as antitumor agent prodrugs)

IT Ammine **complexes**
RL: CPS (Chemical process); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(platinum-group **metal**; preparation and hydrolysis kinetics of bisplatinum polyamine-bridged complexes as antitumor agent prodrugs)

IT Antitumor agents
Human
Leukemia
Ovary, neoplasm
Protective groups
(preparation and hydrolysis kinetics of bisplatinum polyamine-bridged complexes as antitumor agent prodrugs)

IT Drug delivery systems
(prodrugs; preparation and hydrolysis kinetics of bisplatinum polyamine-bridged complexes as antitumor agent prodrugs)

IT 500552-42-1P 500552-45-4P 500552-48-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate product in preparation of spermidine protected in N4 site with acetyl/chloroacetyl/trifluoroacetyl group)

IT 193560-29-1
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(pKa and reactant for preparation of bisplatinum complexes with protected spermidine polyamine as antitumor agent prodrugs)

IT **382180-22-5P** 382605-39-2P 500552-39-6P
RL: CPS (Chemical process); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(preparation and hydrolysis kinetics of targeted bisplatinum complexes with protected spermidine polyamines as antitumor agent prodrugs)

IT 16887-00-6DP, Chloride, platinum complexes
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation and hydrolysis of bisplatinum polyamine-bridged complexes as antitumor agent prodrugs)

IT 382605-40-5P 500552-35-2P 500552-38-5P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation and hydrolysis of targeted bisplatinum complexes with protected spermidine polyamines as antitumor agent prodrugs)

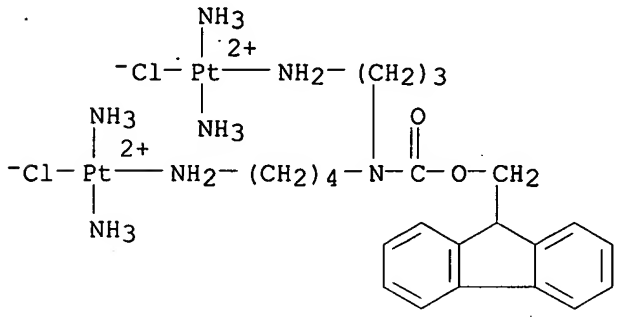
IT 7440-06-4DP, Platinum, polyamine complexes
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of targeted bisplatinum complexes with protected polyamines as antitumor agent prodrugs)

IT **382180-22-5P**
RL: CPS (Chemical process); PAC (Pharmacological activity); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(preparation and hydrolysis kinetics of targeted bisplatinum complexes with protected spermidine polyamines as antitumor agent prodrugs)

RN 382180-22-5 HCAPLUS

CN Platinum(2+), tetraamminedichloro[μ-[9H-fluoren-9-ylmethyl [4-(amino-κN)butyl][3-(amino-κN)propyl]carbamate]]di-, dichloride, stereoisomer (9CI) (CA INDEX NAME)



●2 Cl⁻

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 20 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:124618 HCAPLUS

DN 138:408935

TI Triplet exciton confinement in phosphorescent **polymer** light-emitting diodes

AU Chen, Fang-Chung; He, Gufeng; Yang, Yang

CS Department of Materials Science and Engineering, University of California at Los Angeles, Los Angeles, CA, 90095, USA

SO Applied Physics Letters (2003), 82(7), 1006-1008
CODEN: APPLAB; ISSN: 0003-6951

PB American Institute of Physics

DT Journal

LA English

AB Ir complexes, with triplet energy levels above or below the triplet level of host **polymer**, were used to study the flow of excitons between the host and the dopants. The performance of phosphorescent **polymer** light-emitting diodes is sensitive to the triplet energy of the dopant. When the dopant exciton level was higher than that of the host **polymer**, a backward excitation energy transfer occurred; hence, the **photoluminescence** is quenched and the device performance is poor. When the triplet energy level of the dopant was lower than that of the host **polymer**, the exciton is confined to the dopant site, and the device shows better performance due to this confinement.

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **36**

ST triplet exciton confinement phosphorescent **polymer** light emitting diode

IT Triplet state

(energy for; triplet exciton confinement in phosphorescent **polymer** light-emitting diodes)

IT **Electroluminescent** devices
Exciton
Luminescence
(triplet exciton confinement in phosphorescent **polymer** light-emitting diodes)

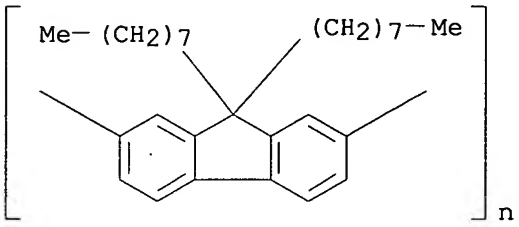
IT **195456-48-5**, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl)
RL: DEV (Device component use); USES (Uses)
(doped with **iridium complexes**; triplet exciton confinement in phosphorescent **polymer** light-emitting diodes)

IT 7439-88-5, Iridium, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**polymer** doped w; triplet exciton confinement in phosphorescent **polymer** light-emitting diodes)

IT 7429-90-5, Aluminum, uses 7440-70-2, Calcium, uses 25067-59-8, Polyvinylcarbazole 50926-11-9, Indium tin oxide 126213-51-2, PEDOT
RL: DEV (Device component use); USES (Uses)
(triplet exciton confinement in phosphorescent **polymer** light-emitting diodes)

IT **195456-48-5**, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl)
RL: DEV (Device component use); USES (Uses)
(doped with **iridium complexes**; triplet exciton confinement in phosphorescent **polymer** light-emitting diodes)

RN 195456-48-5 HCAPLUS
CN Poly(9,9-dioctyl-9H-fluorene-2,7-diyl) (9CI) (CA INDEX NAME)



RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 21 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:79401 HCAPLUS
DN 138:345724
TI Electrophosphorescence from a conjugated copolymer doped with an iridium complex: high brightness and improved operational stability
AU Gong, Xiong; Ostrowski, Jacek C.; Bazan, Guillermo C.; Moses, Daniel; Heeger, Alan J.; Liu, Michelle S.; Jen, Alex K.-Y.
CS Institute for Polymers and Organic Solids, University of California at Santa Barbara, Santa Barbara, CA, 93106-5096, USA
SO Advanced Materials (Weinheim, Germany) (2003), 15(1), 45-49
CODEN: ADVMEW; ISSN: 0935-9648
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
AB A study was conducted to demonstrate the high brightness and good operational stability of red phosphorescent **polymer** light emitting diodes (PLED) fabricated from the statistical conjugated copolymer, poly(9,9-dihexylfluorene)-co-2,5-dicyanophenylene, as the host,

and tris(2,5-bis-2'-(9,9-dihexylfluorene)pyridine)iridium(III) (Ir-(HFP)3), as the guest. The maximum luminance was 2200 cd m-2, and devices with 1 weight% Ir(HFP)3 exhibited external quantum efficiency and luminous efficiency of 1.5% ph el-1 and 3 cd A-1, resp., at 142 cd m-2. The devices had good operational stability under the constant DC drive at room temperature These results demonstrate that electrophosphorescence with high brightness and good operational stability can be achieved from conjugated **polymer**-based LEDs, fabricated by processing the active materials from solution

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

ST electrophosphorescent conjugated copolymer iridium complex **electroluminescent** device

IT Phosphorescent substances
(electro-; **electroluminescent** device based on a conjugated copolymer doped with an iridium complex)

IT **Electroluminescent** devices
(**electroluminescent** device based on a conjugated copolymer doped with an iridium complex)

IT **446017-50-1**
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(conjugated copolymer doped with; **electroluminescent** device based on a conjugated copolymer doped with an **iridium complex**)

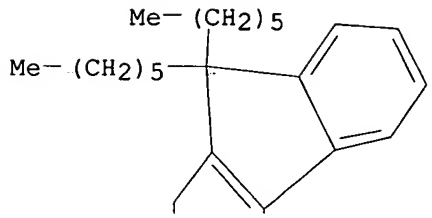
IT 32074-25-2D, Benzenedicarbonitrile, **polymer** with dihexylfluorene **123863-97-8D**, **polymer** with dicyanobenzene
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**iridium complex**-doped; **electroluminescent** device based on a conjugated copolymer doped with an **iridium complex**)

IT **446017-50-1**
RL: DEV (Device component use); MOA (Modifier or additive use); PRP (Properties); USES (Uses)
(conjugated copolymer doped with; **electroluminescent** device based on a conjugated copolymer doped with an **iridium complex**)

RN 446017-50-1 HCAPLUS

CN Iridium, tris[2-[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-pyridinyl-κN]-9,9-dihexyl-9H-fluoren-3-yl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-B



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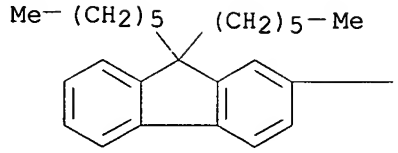

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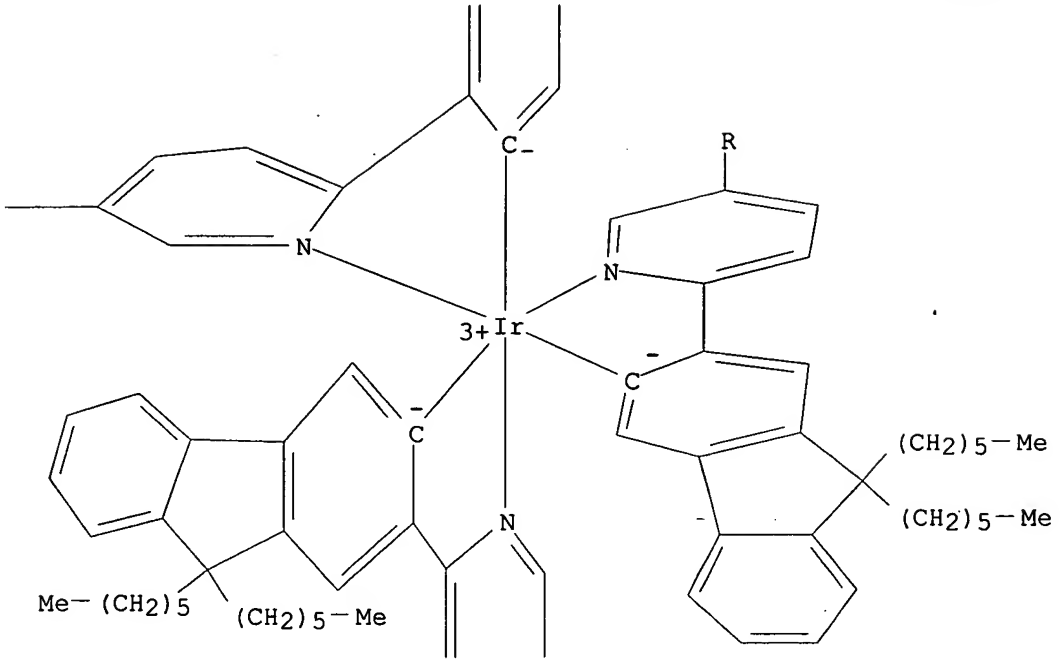

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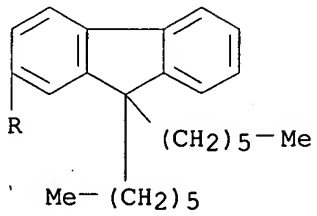

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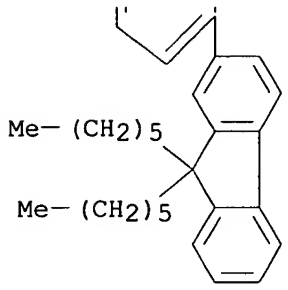
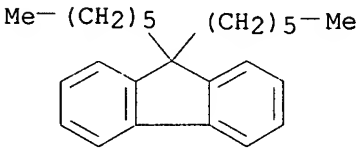


IT **123863-97-8D, polymer** with dicyanobenzene
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**iridium complex**-doped; **electroluminescent** device based on a conjugated copolymer doped with an **iridium complex**)
RN 123863-97-8 HCAPLUS
CN 9H-Fluorene, 9,9-dihexyl- (9CI) (CA INDEX NAME)



RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 22 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:954416 HCAPLUS
DN 138:114713
TI High-Efficiency Red-Light Emission from Polyfluorenes Grafted with Cyclometalated Iridium Complexes and Charge Transport Moiety
AU Chen, Xiwen; Liao, Jin-Long; Liang, Yongmin; Ahmed, M. O.; Tseng, Hao En; Chen, Show An
CS Chemical Engineering Department, National Tsing-Hua University, Hsinchu, 30013, Taiwan
SO Journal of the American Chemical Society (2003), 125(3), 636-637
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
AB The authors report a new route for the design of **electroluminescent polymers** by grafting high-efficiency phosphorescent organometallic complexes as dopants and charge transport moieties onto alkyl side chains of fully conjugated **polymers** for **polymer** light-emitting diodes (PLED) with single layer/single **polymers**. The **polymer** system studied involves polyfluorene (PF) as the base conjugated **polymer**, carbazole (Cz) as the charge transport moiety and a source for green emission by forming an electroplex with the PF main chain, and cyclometalated Ir complexes as the phosphorescent dopant. Energy transfer from the green Ir complex or an electroplex formed between the fluorene main chain and side-chain carbazole moieties, in addition to that from the PF main chain, to the red Ir

complex can significantly enhance the device performance, and a red light-emitting device with the high efficiency 2.8 cd/A at 7 V and 65 cd/m2, comparable to that of the same Ir complex-based OLED, and a broad-band light-emitting device containing blue, green, and red peaks (2.16 cd/A at 9 V) were obtained.

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST red **luminescence** polyfluorene iridium organometallic complex charge transport

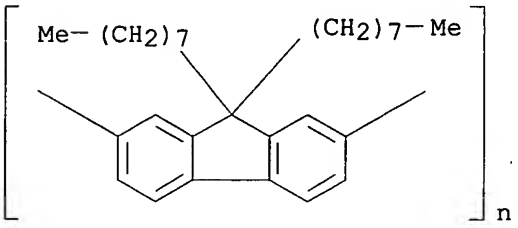
IT **Electroluminescent** devices
Energy transfer
Luminescence
Luminescence, electroluminescence
Phosphors
(high-efficiency red-light emission from polyfluorenes grafted with cyclometalated iridium complexes and charge transport moiety)

IT 51555-21-6D, reaction products with iridium pentanedionatophenyl complex **195456-48-5D**, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl), reaction products with **iridium** pentanedionatophenyl **complex** 337527-01-2D, reaction products with polyfluorenes 343978-79-0D, reaction products with polyfluorenes
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(high-efficiency red-light emission from polyfluorenes grafted with cyclometalated **iridium complexes** and charge transport moiety)

IT **195456-48-5D**, Poly(9,9-dioctyl-9H-fluorene-2,7-diyl), reaction products with **iridium** pentanedionatophenyl **complex**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(high-efficiency red-light emission from polyfluorenes grafted with cyclometalated **iridium complexes** and charge transport moiety)

RN 195456-48-5 HCAPLUS

CN Poly(9,9-dioctyl-9H-fluorene-2,7-diyl) (9CI) (CA INDEX NAME)



RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 23 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:860353 HCAPLUS

DN 138:144341

TI Red electrophosphorescence from **polymer** doped with iridium complex

AU Gong, Xiong; Ostrowski, Jacek C.; Bazan, Guillermo C.; Moses, Daniel; Heeger, Alan J.

CS Institute for Polymers and Organic Solids, University of California at Santa Barbara, Santa Barbara, CA, 93106-5096, USA

SO Applied Physics Letters (2002), 81(20), 3711-3713
CODEN: APPLAB; ISSN: 0003-6951

PB American Institute of Physics
DT Journal
LA English
AB We demonstrate efficient, bright red electrophosphorescent light emitting diodes (LEDs) employing tris (2,5-bis-2'-(9',9'-dihexylfluorene) pyridine) iridium (III), [Ir(HFP)3], doped into a blend of poly(vinylcarbazole) (PVK) with 2-tert-butylphenyl-5-biphenyl-1,3,4-oxadiazol (PBD). At a c.d. of 2.35 mA/cm2 (brightness of 169 cd/m2), the external quantum efficiency (QEext) and luminous efficiency (LE) were 5% ph/el and 7.2 cd/A, resp. Even at 50 mA/cm2, QEext=3.4% ph/el and LE=5.2 cd/A. The **electroluminescent** emission is characteristic of Ir(HFP)3, with maximum at 600 nm. The devices exhibited no emission from either PVK or PBD, even at the lowest concentration of Ir(HFP)3 (0.05 weight%). The results demonstrate that electrophosphorescence with high brightness and efficiency can be achieved from **polymer**-based LEDs fabricated by processing the active materials from solution
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **36**, 76, 78
ST red electrophosphorescence polyvinylcarbazole doped iridium dihexylfluorene pyridine complex OLED; electrophosphorescent device red **luminescence** iridium complex doped PVK PBD
IT **Luminescence** quenching
(as function of dopant concentration; red electrophosphorescence from **polymer** doped with iridium complex)
IT Doping
(effect of doping concentration; red electrophosphorescence from **polymer** doped with iridium complex)
IT **Luminescence**
UV and visible spectra
(of PVK-PBD blend and of iridium complex)
IT **Luminescence, electroluminescence**
(red electrophosphorescence; red electrophosphorescence from **polymer** doped with iridium complex)
IT **Electroluminescent** devices
(red-emitting, electrophosphorescent; red electrophosphorescence from **polymer** doped with iridium complex)
IT 25067-59-8, Poly(vinylcarbazole)
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(PBD blend with; red electrophosphorescence from **polymer** doped with iridium complex)
IT 15082-28-7
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(PVK blend with; red electrophosphorescence from **polymer** doped with iridium complex)
IT 7440-22-4, Silver, uses 7440-70-2, Calcium, uses 50926-11-9, Indium tin oxide
RL: DEV (Device component use); USES (Uses)
(electrode; red electrophosphorescence from **polymer** doped with iridium complex)
IT 126213-51-2, Poly(3,4-ethylene dioxythiophene)
RL: DEV (Device component use); USES (Uses)
(hole-injecting layer; red electrophosphorescence from **polymer** doped with iridium complex)
IT **446017-50-1**

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(red electrophosphorescence from **polymer** doped with **iridium complex**)

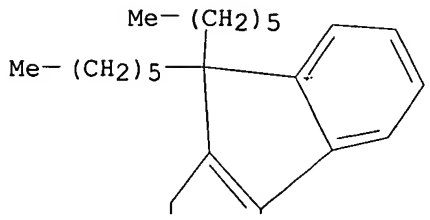
IT **446017-50-1**

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(red electrophosphorescence from **polymer** doped with **iridium complex**)

RN 446017-50-1 HCAPLUS

CN Iridium, tris[2-[5-(9,9-dihexyl-9H-fluoren-2-yl)-2-pyridinyl-κN]-9,9-dihexyl-9H-fluoren-3-yl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-B



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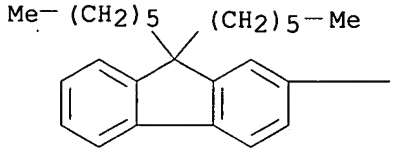

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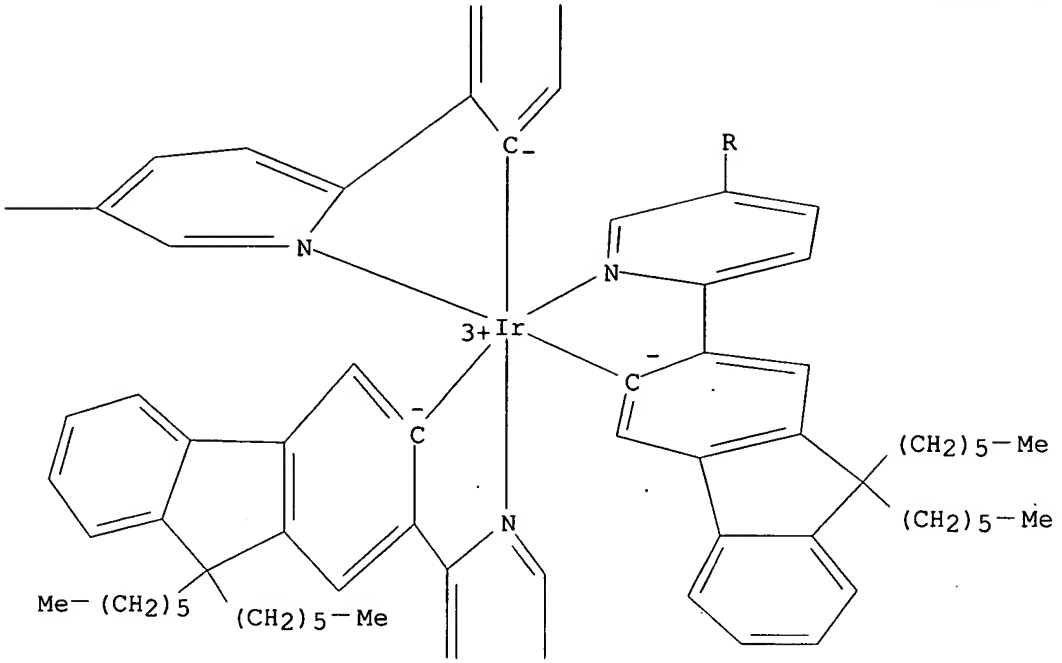

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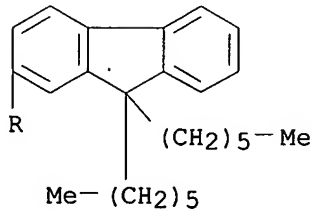

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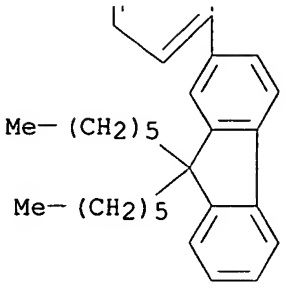


RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 24 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:843685 HCAPLUS
DN 138:160398
TI Singlet and triplet energy transfer in a benzil-doped, light emitting, solid-state conjugated **polymer**
AU Rothe, C.; Palsson, L. O.; Monkman, A. P.
CS Department of Physics, OEM Research Group, University of Durham, Durham, DH1 3LE, UK
SO Chemical Physics (2002), 285(1), 95-101
CODEN: CMPHC2; ISSN: 0301-0104
PB Elsevier Science B.V.
DT Journal
LA English
AB The **luminescence** emitted from pure and benzil-doped thin films of the conjugated **polymer** polyfluorene [PF2/6] are compared. The prompt fluorescence from the 1st singlet-excited state of the **polymer** is quenched by 90% in the presence of 10% per weight benzil. In addition to the prompt fluorescence, time-resolved spectroscopy at low temperature also allows the detection of phosphorescence and delayed fluorescence from the host **polymer**. Again the delayed fluorescence is strongly quenched but the phosphorescence is enhanced in doped samples. An explanation of the results is given in terms of singlet energy transfer from the host to benzil and triplet energy transfer from the dopant back to PF2/6. The authors have applied this to enable better understanding of the photophysics in PF2/6 doped with a Pt porphyrin complex.
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 22, **36**
ST singlet triplet energy transfer benzil doped conjugated **polymer**; light emitting fluorescence solid state conjugated **polymer**
IT Singlet state
(energy transfer; singlet and triplet energy transfer in a benzil-doped, light emitting, solid-state conjugated **polymer** and platinum complex)
IT Excited state
Fluorescence
Fluorescence quenching
Triplet state
(singlet and triplet energy transfer in a benzil-doped, light emitting, solid-state conjugated **polymer** and platinum complex)
IT Electronic energy transfer

(triplet-state, triplet energy transfer; singlet and triplet energy transfer in a benzil-doped, light emitting, solid-state conjugated **polymer** and platinum complex)

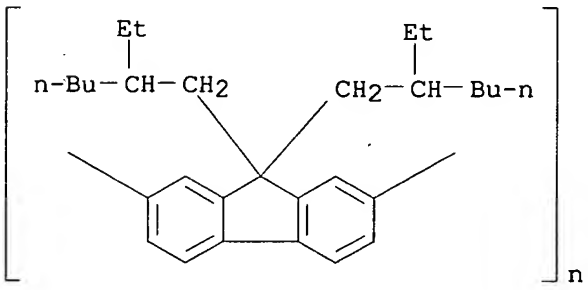
IT 134-81-6, Benzil
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(singlet and triplet energy transfer in a benzil-doped, light emitting, solid-state conjugated **polymer** and platinum complex)

IT 31248-39-2
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(singlet and triplet energy transfer in a benzil-doped, light emitting, solid-state conjugated **polymer** and platinum complex)

IT **188201-14-1**
RL: PRP (Properties)
(singlet and triplet energy transfer in a benzil-doped, light emitting, solid-state conjugated **polymer** and **platinum complex**)

IT **188201-14-1**
RL: PRP (Properties)
(singlet and triplet energy transfer in a benzil-doped, light emitting, solid-state conjugated **polymer** and **platinum complex**)

RN 188201-14-1 HCAPLUS
CN Poly[9,9-bis(2-ethylhexyl)-9H-fluorene-2,7-diyl] (9CI) (CA INDEX NAME)



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

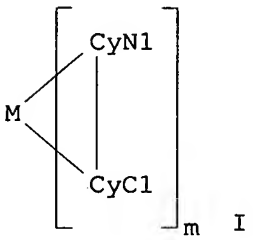
L39 ANSWER 25 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:693162 HCAPLUS
DN 137:239824
TI Metal coordination compound, luminescence device and display apparatus
IN Takiguchi, Takao; Okada, Shinjiro; Tsuboyama, Akira; Miura, Seishi; Moriyama, Takashi; Kamatani, Jun; Furugori, Manabu
PA Canon Kabushiki Kaisha, Japan
SO Eur. Pat. Appl., 113 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1238981	A2	20020911	EP 2002-5112	20020307
	EP 1238981	A3	20021030		

	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2002332291	A2	20021122	JP 2002-42522	20020220
	US 2003068535	A1	20030410	US 2002-90836	20020306
	CN 1374315	A	20021016	CN 2002-106791	20020308
PRAI	JP 2001-64254	A	20010308		
	JP 2002-42522	A	20020220		

OS MARPAT 137:239824

GI



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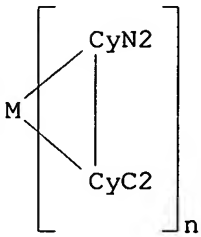

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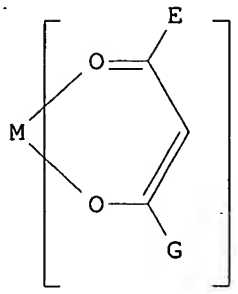
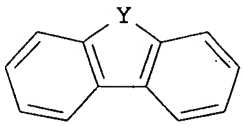


III



IV

AB An electroluminescence device having a layer containing a specific metal coordination compound is provided. The metal coordination compound is represented by MLmL'n (M = Ir, Pt, Rh or Pd; L and L' = mutually different bidentate ligands; m = 1-3; n = 0-2; m+n = 2 or 3; a partial structure MLm is represented by I ; a partial structure ML'n is represented by II (CyN1 and CyN2 = cyclic group capable of having a substituent, including a nitrogen and bonded to the metal atom M via the nitrogen atom; CyC1 and CyC2 = cyclic group capable of having a substituent selected from a halogen atom, cyano group, nitro, trialkylsilyl, etc.;the cyclic groups CyC1 and CyC2 include an aromatic group capable of having a substituent represented by IV(Y = CO, C=C(CN)2, O, S, CRR'; R, R' = H, C1-8 alkyl, etc.)), and III (E, G = C1-20 alkyl of which the H can be optionally replaced with a F, or an aromatic group capable of having a substituent)) . The metal coordination compound having the aromatic group is effective in providing high-efficiency luminescence and long-term high luminance.

IC ICM C07F015-00
ICS H01L051-00

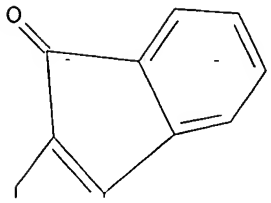
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electroluminescent display device transition metal coordination compd

IT Electroluminescent devices
(displays; metal coordination compound for luminescence device and

display apparatus)
IT Luminescent screens
(electroluminescent; metal coordination compound for luminescence device and display apparatus)
IT Transition **metal complexes**
RL: TEM (Technical or engineered material use); USES (Uses)
(**metal** coordination compound for luminescence device and display apparatus)
IT 458532-65-5P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(metal coordination compound for luminescence device and display apparatus)
IT 457932-45-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(metal coordination compound for luminescence device and display apparatus)
IT 446017-48-7P **458532-67-7P** 458532-68-8P 458532-69-9P
458532-70-2P 458532-71-3P 458532-72-4P 458532-73-5P 458532-74-6P
458532-75-7P 458532-76-8P 458532-77-9P 458532-78-0P 458532-79-1P
458532-80-4P 458532-81-5P 458532-83-7P 458532-85-9P 458532-87-1P
458532-89-3P 458532-91-7P **458532-93-9P** 458532-95-1P
459166-22-4P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(metal coordination compound for luminescence device and display apparatus)
IT 458532-66-6P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of metal coordination compound for luminescence device and display apparatus)
IT 107-08-4, 1-Iodopropane 109-04-6, 2-Bromopyridine 121-43-7, Trimethyl borate 542-69-8, 1-Iodobutane 624-28-2, 2,5-Dibromopyridine 628-17-1, 1-Iodopentane 629-27-6, 1-Iodooctane 638-45-9, 1-Iodohexane 2050-77-3, 1-Iododecane 4276-49-7, 1-Bromoeicosane 4282-40-0, 1-Iodoheptane 15635-87-7 18368-64-4, 2-Chloro-5-methylpyridine 52334-81-3, 2-Chloro-5-trifluoromethylpyridine 100124-06-9, Dibenzofuran-4-boronic acid 107351-82-6 108847-20-7, Dibenzothiophene-4-boronic acid 109919-25-7, 2-Chloro-4,5-bis(trifluoromethyl)pyridine 144981-85-1, 2-Iodo-9,9-dimethylfluorene 287493-15-6, 2-Bromo-9,9-diethylfluorene 400607-30-9 400607-33-2 457932-47-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of metal coordination compound for luminescence device and display apparatus)
IT 333432-28-3P 457932-46-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of metal coordination compound for luminescence device and display apparatus)
IT **458532-67-7P 458532-93-9P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(metal coordination compound for luminescence device and display apparatus)
RN 458532-67-7 HCAPLUS
CN Iridium, tris[2-[5-(9-oxo-9H-fluoren-2-yl)-2-pyridinyl-κN]-9-oxo-9H-fluoren-3-yl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-B



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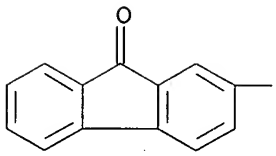

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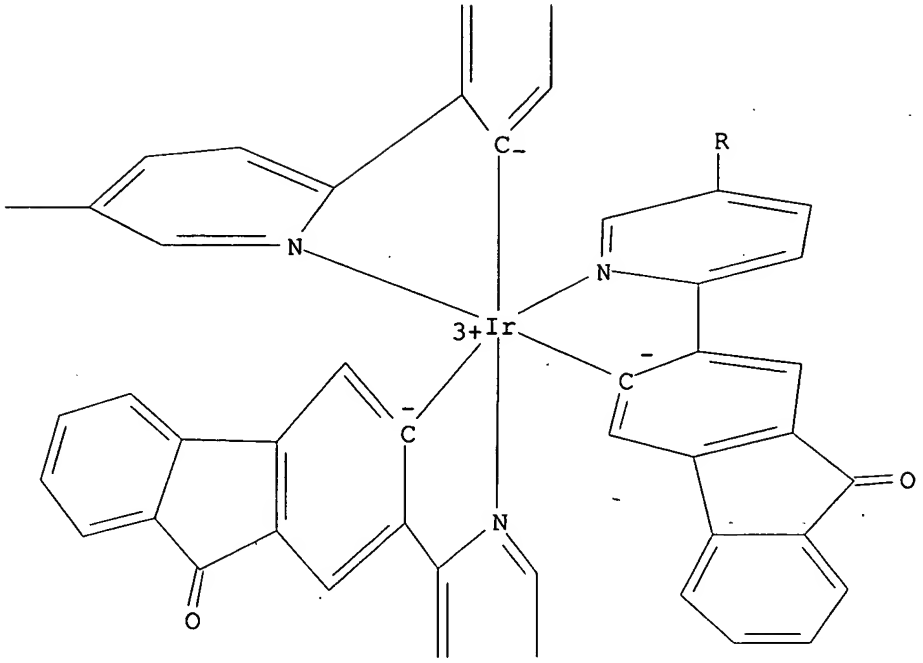
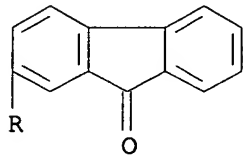


PAGE 3-A



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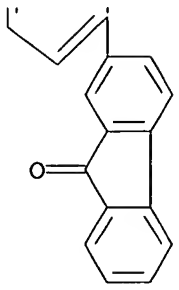
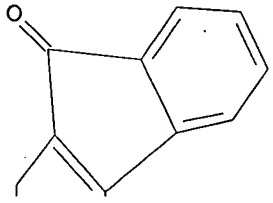


RN 458532-93-9 HCAPLUS
CN Rhodium, tris[9-oxo-2-[5-(9-oxo-9H-fluoren-2-yl)-2-pyridinyl-κN]-9H-fluoren-3-yl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-B



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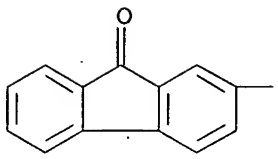

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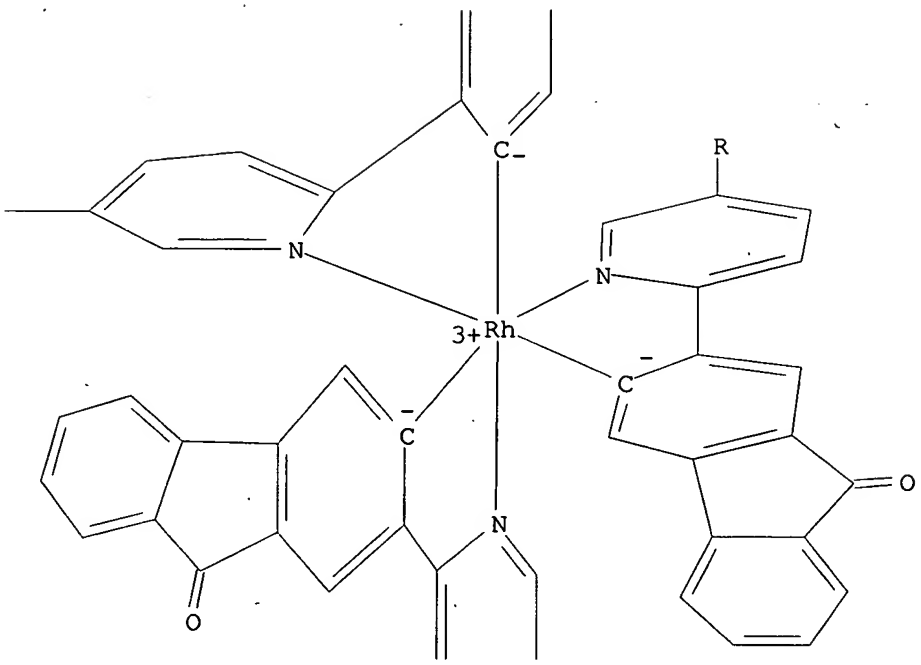

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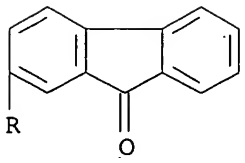

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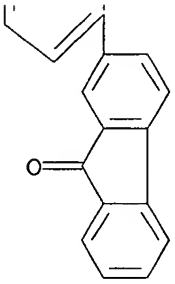


L39 ANSWER 26 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:243794 HCAPLUS
DN 137:85571
TI High-performance **polymer** light-emitting diodes doped with a red phosphorescent iridium complex
AU Chen, Fang-Chung; Yang, Yang; Thompson, Mark E.; Kido, Junji
CS Department of Materials Science and Engineering, University of California at Los Angeles, Los Angeles, CA, 90095, USA
SO Applied Physics Letters (2002), 80(13), 2308-2310
CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
AB High efficiency was achieved in **polymer** LEDs (PLEDs) exhibiting red emission by doping a fluorescence host material, poly(vinylcarbazole) (PVK), with an Ir(III) complex, bis[2-(2'-benzothienyl)-pyridinato-N,C3']iridium(acetylacetonate) (BtpIr). The **electroluminescence** has a maximum λ = 614 nm. The highest external quantum efficiency is 3.3%. Due to its short triplet excited lifetime (.apprx.5 μs), the quenching of the triplet exciton in BtpIr-doped PVK PLEDs is suppressed

compared to Pt(II)-2,8,12,17-tetraethyl-3,7,13,18-tetramethylporphyrin-doped PVK PLEDs. 65% Of the peak efficiency can be sustained at high-c.d. and at the high brightness of 1350 cd/m2. Probably both triplet-triplet annihilation and polaron-triplet annihilation involves exciton quenching.

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **38**, 76

ST **polymer** light emitting diode doped red phosphorescent iridium complex

IT **Electroluminescent** devices
(high-performance **polymer** LEDs doped with red phosphorescent iridium complex)

IT **Luminescence, electroluminescence**
(of high-performance **polymer** LEDs doped with red phosphorescent iridium complex)

IT Exciton
(triplet; of high-performance **polymer** LEDs doped with red phosphorescent iridium complex)

IT 25067-59-8, Poly(vinylcarbazole) **123864-00-6**
RL: DEV (Device component use); USES (Uses)
(high-performance LEDs doped with red phosphorescent **iridium complex**)

IT 343978-79-0
RL: PRP (Properties)
(high-performance **polymer** LEDs doped with red phosphorescent)

IT 15082-28-7, ButylPBD 126213-51-2, PEDOT
RL: DEV (Device component use); USES (Uses)
(high-performance **polymer** LEDs doped with red phosphorescent iridium complex and)

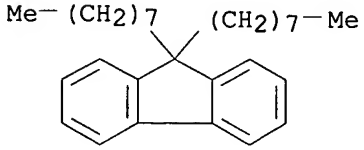
IT **123864-00-6**
RL: DEV (Device component use); USES (Uses)
(high-performance LEDs doped with red phosphorescent **iridium complex**)

RN 123864-00-6 HCAPLUS

CN 9H-Fluorene, 9,9-dioctyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123863-99-0
CMF C29 H42



RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

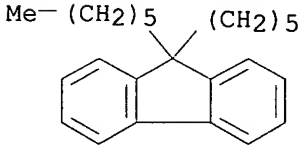
L39 ANSWER 27 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:227363 HCAPLUS
DN 137:69875
TI Highly efficient electrophosphorescent devices based on conjugated **polymers** doped with iridium complexes
AU Zhu, Weiguo; Mo, Yueqi; Yuan, Min; Yang, Wei; Cao, Yong
CS Institute of Polymer Optoelectronic Material and Devices, South China

University of Technology, Canton, 510640, Peop. Rep. China
SO Applied Physics Letters (2002), 80(12), 2045-2047
CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
AB Iridium complexes with alkyl substituted 2-phenylpyridine, Ir(Bu-PPy)3, were synthesized. **Polymer** light emitting diodes with Ir complexes as the guest materials and the substituted polyphenylenes as the host were fabricated. Ir(Bu-PPy)3-doped Poly(2-(6-cyano-6-methyl)-heptyloxy-1,4-phenylene) (CNPPP) device showed generally higher quantum efficiency (QE) than that of Ir(PPy)3-doped device for a given dopant concentration More importantly, the addition of Bu group into phenylpyridine ligand significantly suppresses the decay of device efficiency at high c.d. For instance, for devices made with Ir(Bu-PPy)3-doped CNPPP: the maximum external quantum efficiency, QE, and luminance efficiency reached 5.1% ph/el and 12 cd/A, resp., at 800 cd/m2 and maintained at 4.2% ph/el and 10 cd/A, resp., at 2500 cd/m2.
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): **38**, 76, 78
ST electrophosphorescent device iridium phenylpyridine butyl complex conjugated **polymer**
IT **Polymers**, properties
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(conjugated; highly efficient electrophosphorescent devices based on conjugated **polymers** doped with iridium complexes)
IT Doping
(effect of doping concentration; highly efficient electrophosphorescent devices based on conjugated **polymers** doped with iridium complexes)
IT Phosphorescent substances
(electro-; highly efficient electrophosphorescent devices based on conjugated **polymers** doped with iridium complexes)
IT **Electroluminescent** devices
Luminescence, electroluminescence
(highly efficient electrophosphorescent devices based on conjugated **polymers** doped with iridium complexes)
IT IR spectra
(near-IR; of tris(2-phenylpyridine)iridium)
IT UV and visible spectra
(of tris(2-phenylpyridine)iridium)
IT **Luminescence**
(of tris(2-phenylpyridine)iridium-doped CNPPP films)
IT Substituent effects
(t-Bu; highly efficient electrophosphorescent devices based on conjugated **polymers** doped with iridium complexes)
IT 94928-86-6, Tris(2-phenylpyridine)iridium 359014-76-9
RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(film, **polymer** doped with; highly efficient electrophosphorescent devices based on conjugated **polymers** doped with iridium complexes)
IT 25067-59-8, 9H-Carbazole, 9-ethenyl-, homopolymer
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(hole-injection layer, host material; highly efficient electrophosphorescent devices based on conjugated **polymers**

doped with iridium complexes)
IT 184378-14-1, Poly[[(6-cyano-6-methylheptyl)oxy]-1,4-phenylene]
439675-33-9
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process); USES (Uses)
(iridium complex-doped host material; highly efficient electrophosphorescent devices based on conjugated **polymers** doped with iridium complexes)
IT **123863-98-9**, Poly(9,9;-dihexylfluorene)
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**iridium complex**-doped host material; highly efficient electrophosphorescent devices based on conjugated **polymers** doped with **iridium complexes**)
IT **123863-98-9**, Poly(9,9;-dihexylfluorene)
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**iridium complex**-doped host material; highly efficient electrophosphorescent devices based on conjugated **polymers** doped with **iridium complexes**)
RN 123863-98-9 HCAPLUS
CN 9H-Fluorene, 9,9-dihexyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 123863-97-8
CMF C25 H34



RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 28 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:249312 HCAPLUS
DN 135:113704
TI Near-infrared **electroluminescence** of **polymer** light-emitting diodes doped with a lissamine-sensitized Nd3+ complex
AU Slooff, L. H.; Polman, A.; Cacialli, F.; Friend, R. H.; Hebbink, G. A.; van Veggel, F. C. J. M.; Reinhoudt, D. N.
CS FOM-Institute for Atomic and Molecular Physics, Amsterdam, 1098 SJ, Neth.
SO Applied Physics Letters (2001), 78(15), 2122-2124
CODEN: APPLAB; ISSN: 0003-6951
PB American Institute of Physics
DT Journal
LA English
AB The authors report 890 nm **luminescence** from a Nd-doped **polymer** light-emitting diode. The active layer is a blend of poly(dioctylfluorene-co-benzothiadiazole), F8BT, and a lissamine-functionalized terphenyl-based Nd complex. The authors detect **electroluminescence** from both the lissamine (580 nm) and the Nd3+ complex (890 nm). By comparison with lissamine-free devices the lissamine is crucial to IR emission. The Nd/lissamine **luminescence** intensity ratio is higher under elec. excitation than under optical

excitation, showing that more triplets reach Nd3+ under elec. excitation. High turn-on voltages provide a clear indication for charge trapping onto the lissamine, and the authors consider direct triplet formation on the lissamine to be competing efficiently with respect to slower Dexter-type triplet transfer from the F8BT to the lissamine.

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST IR **electroluminescence polymer** light emitting diode; lissamine sensitized neodymium complex LED

IT Electric current-potential relationship
Electroluminescent devices
Luminescence
Luminescence, electroluminescence
Triplet state
UV and visible spectra
(near-IR **electroluminescence** of **polymer** light-emitting diodes doped with a lissamine-sensitized Nd3+ complex and complex properties)

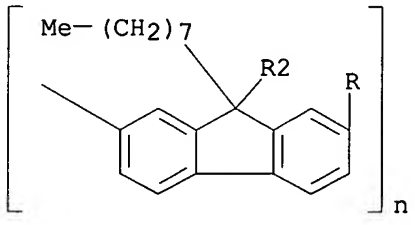
IT 7429-90-5, Aluminum, uses 7440-50-8, Copper, uses 50926-11-9, Indium tin oxide **210347-52-7**
RL: DEV (Device component use); USES (Uses)
(near-**IR electroluminescence** of **polymer** light-emitting diodes doped with a lissamine-sensitized Nd3+ **complex** and **complex** properties)

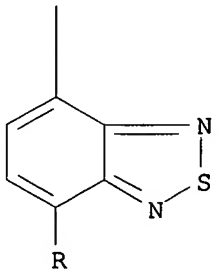
IT **210347-52-7**
RL: DEV (Device component use); USES (Uses)
(near-**IR electroluminescence** of **polymer** light-emitting diodes doped with a lissamine-sensitized Nd3+ **complex** and **complex** properties)

RN 210347-52-7 HCAPLUS

CN Poly[2,1,3-benzothiadiazole-4,7-diyl(9,9-dioctyl-9H-fluorene-2,7-diyl)] (9CI) (CA INDEX NAME)

PAGE 1-A





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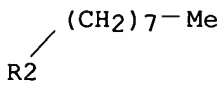


RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 29 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:443497 HCAPLUS
DN 133:252700
TI 4'-Aminomethyl-2,2'-bipyridyl-4-carboxylic Acid (Abc) and Related Derivatives: Novel Bipyridine Amino Acids for the Solid-Phase Incorporation of a Metal Coordination Site Within a Peptide Backbone
AU Bishop, B. M.; McCafferty, D. G.; Erickson, B. W.
CS Department of Chemistry, University of North Carolina at Chapel Hill, Chapel Hill, NC, 27599-3290, USA
SO Tetrahedron (2000), 56(27), 4629-4638
CODEN: TETRAB; ISSN: 0040-4020
PB Elsevier Science Ltd.
DT Journal
LA English
OS CASREACT 133:252700
AB The novel bipyridyl amino acid, 4'-aminomethyl-2,2'-bipyridyl-4-carboxylic acid (Abc), and related Boc- and Fmoc-protected derivs. were synthesized to provide high-affinity bidentate metal-binding amino acid modules for the solid-phase peptide synthesis (SPPS) of metallopeptides. Since the bipyridyl group of Abc is inserted into the peptide main chain and not in the side chain, its presence in a peptide should impart distinct conformational constraints to the backbone geometry, influencing local secondary structure. To demonstrate its amenability for SPPS and its capacity for **metal complexation**, Abc was incorporated into the hexapeptide Ac-Ala-Abc-Ahx-Ahx-Abc-Gly-NH2 (peptide Aha; where Ahx = aminohexanoic acid) and subsequently used as a tetradentate ligand to octahedrally coordinate and asym. encapsulate a ruthenium(II) ion, creating a novel peptide-caged redox-active **metal complex**.
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 78
ST aminomethylbipyridylcarboxylic acid peptide prepn complexation ruthenium; bipyridylcarboxylic acid aminomethyl peptide prepn complexation ruthenium
IT Complexation
Conformation
Solid phase synthesis
(preparation of aminomethylbipyridylcarboxylic acid and solid-phase incorporation of a metal coordination site within a peptide backbone)
IT Peptides, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aminomethylbipyridylcarboxylic acid and solid-phase incorporation of a metal coordination site within a peptide backbone)
IT 1134-35-6, 4,4'-Dimethyl-2,2'-bipyridine
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aminomethylbipyridylcarboxylic acid and solid-phase incorporation of a metal coordination site within a peptide backbone)
IT 6813-38-3P, 2,2'-Bipyridine-4,4'-dicarboxylic acid 103946-54-9P, 4'-Methyl-2,2'-bipyridine-4-carboxylic acid 294879-03-1P 294879-05-3P

294879-07-5P 294879-09-7P 294879-11-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of aminomethylbipyridylcarboxylic acid and solid-phase incorporation of a metal coordination site within a peptide backbone)

IT 295778-88-0P **295778-91-5P** 295778-93-7P 295780-31-3P
295780-36-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aminomethylbipyridylcarboxylic acid and solid-phase incorporation of a metal coordination site within a peptide backbone)

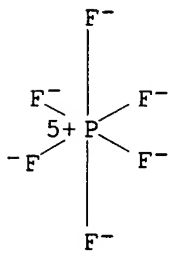
IT **295778-91-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aminomethylbipyridylcarboxylic acid and solid-phase incorporation of a metal coordination site within a peptide backbone)

RN 295778-91-5 HCAPLUS

CN Ruthenium(1+), bis(2,2'-bipyridine-κN1,κN1')[4'-[[[(9H-fluoren-9-ylmethoxy)carbonyl]amino]methyl][2,2'-bipyridine]-4-carboxylato-κN1,κN1']-, (OC-6-33)-, hexafluorophosphate(1-), mono[hexafluorophosphate(1-)] (9CI) (CA INDEX NAME)

CM 1

CRN 16940-81-1
CMF F6 P . H
CCI CCS



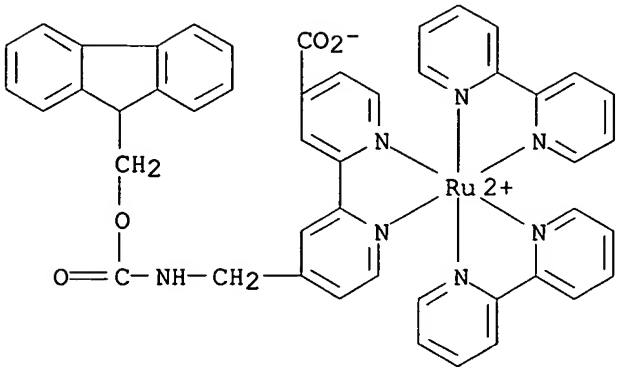
H^+

CM 2

CRN 295778-90-4
CMF C47 H36 N7 O4 Ru . F6 P

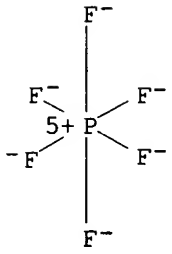
CM 3

CRN 295778-89-1
CMF C47 H36 N7 O4 Ru
CCI CCS



CM 4

CRN 16919-18-9
CMF F6 P
CCI CCS



RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 30 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:794768 HCAPLUS
DN 132:10510
TI Oligomer carrier molecules in which marker groups and haptens are selectively incorporated
IN Josel, H. P.; Finke, A.; Herrmann, R.
PA Boehringer Mannheim GmbH, Germany
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 24 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 1153555	A	19970702	CN 1995-194279	19950724
PRAI CN 1995-194279		19950724		

AB The oligomer carrier is composed of monomer <100, hapten mol. 1-10, marker group or solid-combining group 1-10 unit, preferably monomer 5-60, hapten mol. 1-6, marker group or solid-combining group 2-8 unit. The oligomer carrier may contain peptide chain, and the chain composed of nucleotide or analogs. The hapten mol. and marker group or solid-combining group is

combined with carrier by amino and/or mercapto group. The marker group is selected from gleamy **metal complex**, and fluorescent group; the solid-combining group from biotin, and its analog. The oligomer carrier may contain pos. or/and neg. charge carrier for marker group, or a helical structure for fluorescent group. The hapten is selected from amynol. reactive mol. with the mol. weight of Φ<2,000 Da, antigen-determinative peptide cluster having 30 amino acid unit, nucleate having 50 nucleotide unit, and peptide nucleate having 50 nucleotide unit. The oligomer carrier is prepared by (a) synthesizing peptide carrier, combining with hapten mol. or/and marker group, or solid-combining group; or/and (b) combining hapten mol. or/and marker group, or solid-combining group with the lateral group of the carrier. The oligomer carrier is used for diagnosis of nucleotide, and antigen.

IC ICM G01N033-532
ICS G01N033-533; G01N033-58; C12Q001-68; G01N033-543

CC 9-14 (Biochemical Methods)

ST oligomer carrier mol prepn DNA diagnosis; hapten marker group oligomer carrier immunoassay

IT Amino acids, biological studies
Chelates
Haptens
Hormones, animal, biological studies
Neurotransmitters
Nucleotides, biological studies
Peptide nucleic acids
Vitamins
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(Oligomer carrier containing; oligomer carrier mols. in which marker groups and haptens are selectively incorporated)

IT Blood analysis
(oligomer carrier mols. in which marker groups and haptens are selectively incorporated)

IT DNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(oligomer carrier mols. in which marker groups and haptens are selectively incorporated)

IT Antibiotics
(protein from Streptomyces; oligomer carrier mols. in which marker groups and haptens are selectively incorporated)

IT 50-28-2, Estradiol, analysis
RL: ANT (Analyte); ANST (Analytical study)
(oligomer carrier mols. in which marker groups and haptens are selectively incorporated)

IT 58-85-5P 251369-45-6P
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(oligomer carrier mols. in which marker groups and haptens are selectively incorporated)

IT 105047-45-8 161698-59-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(oligomer carrier mols. in which marker groups and haptens are selectively incorporated)

IT 251358-82-4P **251369-47-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(oligomer carrier mols. in which marker groups and haptens are selectively incorporated)

IT **251369-47-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)

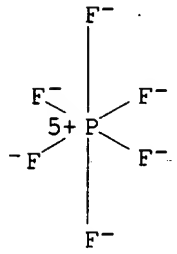
(oligomer carrier mols. in which marker groups and haptens are selectively incorporated)

RN 251369-47-8 HCAPLUS

CN Ruthenium(1+), bis(2,2'-bipyridine-κN1,κN1')[N2-[(9H-fluoren-9-ylmethoxy)carbonyl]-N6-[4-(4'-methyl[2,2'-bipyridin]-4-yl-κN1,κN1')-1-oxobutyl]-L-lysinato]-, (OC-6-33)-, hexafluorophosphate(1-), mono[hexafluorophosphate(1-)] (9CI) (CA INDEX NAME)

CM 1

CRN 16940-81-1
CMF F6 P . H
CCI CCS



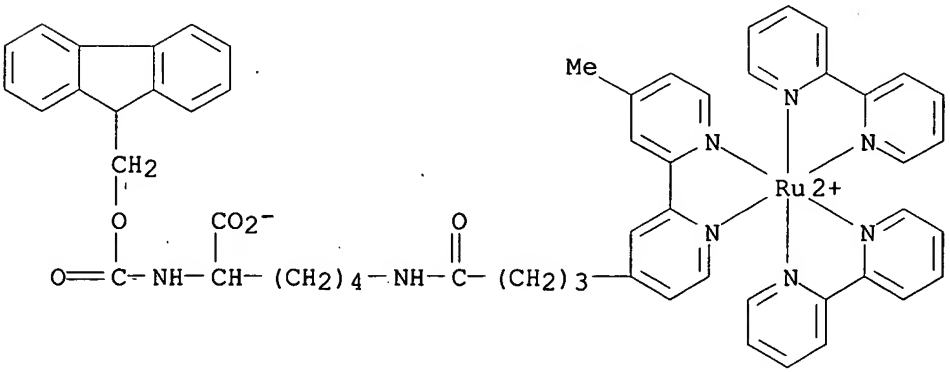
H^+

CM 2

CRN 252847-17-9
CMF C56 H53 N8 O5 Ru . F6 P

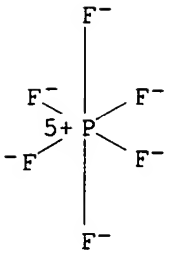
CM 3

CRN 251369-46-7
CMF C56 H53 N8 O5 Ru
CCI CCS



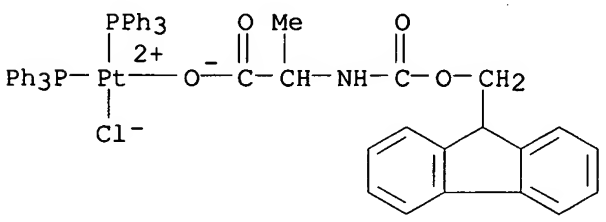
CM 4

CRN 16919-18-9
CMF F6 P
CCI CCS



L39 ANSWER 31 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1999:65582 HCAPLUS
DN 130:182603
TI **Metal complexes** with biologically important ligands. Part 109. Organometallic compounds of platinum(II), ruthenium(II), rhodium(II), and iridium(III) with oxocarbonyl-N-protected-α-amino acids and L-methionylglycinate
AU Prem, Markus; Polborn, Kurt; Beck, Wolfgang
CS Inst. Anorganische Chem., Ludwig-Maximilians-Univ., Munich, D-80333, Germany
SO Zeitschrift fuer Naturforschung, B: Chemical Sciences (1998), 53(12), 1501-1505
CODEN: ZNBSEN; ISSN: 0932-0776
PB Verlag der Zeitschrift fuer Naturforschung
DT Journal
LA German
AB The reaction of cis-(Ph3P)2PtCl2 with BOC-N-glycine and FMOC-N-alanine gives the carboxylate-coordinated complexes cis-(Ph3P)2Pt(Cl)(O2CCH2NHBOC) (I) and cis-(Ph3P)2Pt(Cl)(O2CC(H)(Me)NHFMOC). Chloride and proton abstraction from I affords the N,O-chelate complex (Ph3P)2Pt(O2CCH2NBOC). From the Cl-bridged compds. [Cp*MCl2]2 (M = Rh, Ir), [(p-cymene)RuCl2]2, and BOC-N-L-MetGlyOH (L) the compds. Cp*M(Cl)2L and (p-cymene)Ru(Cl)2L with the mono-dentate dipeptide are obtained which in the presence of NaOMe form O,N,S-bis(chelate) complexes. The x-ray diffraction anal. (orthorhombic, P212121, a = 9.050(2), b = 13.151(4), c = 20.776(6) Å, V = 2472.7(12) Å3, Z = 4, ρc = 1.697 g/cm3, F(000) = 1256, μ(MoKα) = 5.518 mm-1, 3432 independent reflections, 290 refined parameters, R1 = 0.0229, wR2 = 0.0604) of the Ir O,N,S chelate complex shows a 5-membered and a 7-membered chelate ring.
CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 75, 78
ST platinum **metal** amino acid **complex** prepn; iridium methionylglycinate complex prepn crystal structure; rhodium cyclopentadienyl methionylglycinate prepn; methionylglycinate platinum **metal complex** prepn; ruthenium cumene methionylglycinate complex prepn; glycinate platinum complex prepn; alanine platinum complex prepn
IT Platinum-group **metal complexes**

RL: SPN (Synthetic preparation); PREP (Preparation)
IT Transition **metal complexes**
RL: SPN (Synthetic preparation); PREP (Preparation)
(amino acid)
IT Crystal structure
Molecular structure
(of iridium L-methionylglycinate pentamethylcyclopentadienyl complex)
IT IR spectra
NMR (nuclear magnetic resonance)
(of platinum amino acid complexes)
IT Amino acids, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(transition **metal complexes**)
IT 220619-57-8P **220619-58-9P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and IR and NMR spectra)
IT 220619-64-7P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal and mol. structure of)
IT 220619-60-3P 220619-61-4P 220619-62-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and substitutive chelation of amino acid in)
IT 220619-59-0P 220619-63-6P 220619-65-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 4530-20-5, BOC-glycine 12354-84-6, Tetrachlorobis(pentamethylcyclopentadienyl)diiridium 12354-85-7, Tetrachlorobis(pentamethylcyclopentadienyl)dirhodium 15604-36-1, cis-Dichlorobis(triphenylphosphine)platinum 23446-03-9 35661-39-3 52462-29-0, Tetrachlorobis(p-cymene)diruthenium
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of platinum **metal complexes** with N-protected-α-amino acids and L-methionylglycinate)
IT **220619-58-9P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and IR and NMR spectra)
RN 220619-58-9 HCAPLUS
CN Platinum, chloro[N-[(9H-fluoren-9-ylmethoxy)carbonyl]-L-alaninato-κO]bis(triphenylphosphine)-, (SP-4-2)- (9CI) (CA INDEX NAME)



RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 32 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:80397 HCAPLUS
DN 126:86791
TI Interference-suppressing reagent for determination of analytes with luminescent **metal complexes**

IN Eckert, Bernhard; Lenz, Helmut; Franken, Norbert; Josel, Hans-Peter; Ofenloch-Haehnle, Beatus
PA Boehringer Mannheim Gmbh, Germany
SO Ger. Offen., 23 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19519973	A1	19961205	DE 1995-19519973	19950531
	EP 747699	A1	19961211	EP 1996-108625	19960530
	EP 747699	B1	19981209		
	R: AT, BE, CH, DE, DK, ES, FR, GB, IE, IT, LI, NL, SE				
	JP 08327548	A2	19961213	JP 1996-136869	19960530
	JP 2953501	B2	19990927		
	AT 174431	E	19981215	AT 1996-108625	19960530
	US 5888745	A	19990330	US 1996-655476	19960530
	ES 2128125	T3	19990501	ES 1996-108625	19960530
PRAI	DE 1995-19519973	A	19950531		

AB The invention concerns methods for determining an analyte in a sample fluid, e.g., body fluid, by using a luminescent **metal complex** as analyte-specific marker for generating a measuring signal, especially electrochemiluminescence, and in which a nonspecific **metal complex** that has a structure chemical related to the marker group is added as an interference-suppressing reagent. The analyte-specific markers are selected from Re, Ir, Cr, Os, and especially Ru **complexes**, and the nonspecific **metal complexes** are selected from Ru, Rh, Os, Ni, Fe, Co, Ir, Pd, Pt, Cr, and Re complexes or combinations of these. The ligands in the **metal complexes** are selected from bipyridyl, bipyrazyl, terpyridyl, and phenanthrolyl ligands. The reagents can be used in heterogeneous, homogeneous, and sandwich assays, immunoassays, and nucleic acid hybridization methods. Examples are given of the determination of thyroxine-binding capacity and the total amount of thyroxine in blood serum.

IC ICM G01N021-64
ICS G01N021-66; G01N033-483; G01N033-52; G01N033-533; C09K011-06
ICA C07F009-547; C07F009-58; C07F009-6509; C07J051-00; C07H023-00
CC 9-5 (Biochemical Methods)
Section cross-reference(s): 2, 15, 73, 80
ST interference suppression reagent luminescence assay biomol; **metal complex** interference suppression reagent immunoassay; hybridization **metal complex** interference suppression reagent; serum thyroxine detn luminescence spectrometry
IT Immunoglobulins
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(G, **metal complex** conjugates; interference-suppressing reagent for anal. using luminescent **metal complexes**)
IT Heterocyclic compounds
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(aromatic, **metal complexes**; interference-suppressing reagent for anal. using luminescent **metal complexes**)
IT Chemiluminescence spectroscopy
(electrochemiluminescence; interference-suppressing reagent for anal.

using luminescent **metal complexes**)

IT Aromatic compounds
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(heterocyclic, **metal complexes**; interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT Biochemical molecules
Blood analysis
Body fluid
Immunoassay
Luminescence spectroscopy
Nucleic acid hybridization
(interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT Coordination compounds
Rare earth complexes
Transition **metal complexes**
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT Amino acids, analysis
Carbohydrates, analysis
Nucleic acids
Nucleotides, analysis
Peptides, analysis
Proteins, specific or class
Steroids, analysis
RL: ANT (Analyte); ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(**metal complex** conjugates; interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT Antibodies
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(monoclonal, **metal complex** conjugates; interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT 51-48-9, Thyroxine, analysis 9002-71-5, TSH
RL: ANT (Analyte); ANST (Analytical study)
(interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT 7439-88-5DP, Iridium, complexes, preparation 7439-89-6DP, Iron, complexes, preparation 7440-02-0DP, Nickel, complexes, preparation 7440-04-2DP, Osmium, complexes, preparation 7440-05-3DP, Palladium, complexes, preparation 7440-06-4DP, Platinum, complexes, preparation 7440-15-5DP, Rhenium, complexes, preparation 7440-16-6DP, Rhodium, complexes, preparation 7440-18-8DP, Ruthenium, complexes, preparation 7440-47-3DP, Chromium, complexes, preparation 7440-48-4DP, Cobalt, complexes, preparation 16970-94-8P 28277-55-6P 32680-72-1P 70811-29-9P 185750-61-2P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT 366-18-7, 2,2'-Bipyridine 6066-82-6, N-Hydroxysuccinimide 7718-54-9, Nickel chloride, reactions 7758-94-3, Ferrous chloride 10049-07-7,

Rhodium chloride 16941-11-0 114527-28-5 139262-23-0 185750-69-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(interference-suppressing reagent for anal. using luminescent **metal complexes**)

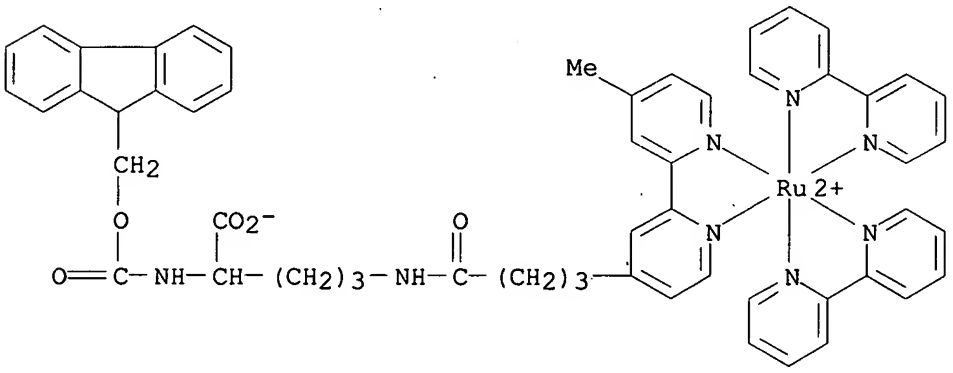
IT 185750-63-4P **185750-68-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT 185750-65-6P 185750-67-8P 185750-70-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT 66-71-7P, 1,10-Phenanthroline 10199-00-5P, Bipyrazine 37275-48-2P, Bipyridyl 72847-58-6P, Terpyridine
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(**metal complexes**; interference-suppressing reagent for anal. using luminescent **metal complexes**)

IT **185750-68-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(interference-suppressing reagent for anal. using luminescent **metal complexes**)

RN 185750-68-9 HCAPLUS
CN Ruthenium(1+), bis(2,2'-bipyridine-κN1,κN1')[N2-[(9H-fluoren-9-ylmethoxy)carbonyl]-N5-[4-(4'-methyl[2,2'-bipyridin]-4-yl-κN1,κN1')-1-oxobutyl]-L-ornithinato]-, (OC-6-33)- (9CI) (CA INDEX NAME)



L39 ANSWER 33 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1993:60524 HCAPLUS
DN 118:60524
TI Organic conducting polymers: synthesis, characterization and conductivity of polyethynylfluorenol
AU Russo, M. V.; Iucci, G.; Polzonetti, G.; Furlani, A.
CS Dep. Chem., Univ. 'La Sapienza', Rome, 00185, Italy
SO Polymer (1992), 33(20), 4401-9
CODEN: POLMAG; ISSN: 0032-3861
DT Journal
LA English
AB The polymerization reactions of ethynylfluorenol (I) in the presence of Rh(I),

Pt(II), Pd(II), and WCl6 catalysts are studied. I homopolymer (II) is air stable and soluble; in solution II slowly releases some of the pendent groups which are converted into 9-fluorenone. Upon doping, enhancement of the conductivity up to .apprx.10 orders of magnitude can be achieved. XPS measurements performed on iodine-doped II suggest that I5- is the major doping species. An interesting reversible response to relative humidity variations is found for FeCl3-doped samples.

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 38, 76

ST polyethynylfluorenol prepn elec cond; fluorenol contg vinyl polymer cond; polymn ethynylfluorenol catalyst conducting polymer

IT Electric conductors, polymeric
(doped poly(ethynylfluorenol), preparation and characterization of)

IT Polymerization catalysts
(**metal complexes**, for ethynylfluorenol)

IT Electric resistance
(of doped poly(ethynylfluorenol), in dry and humid atms., structure in relation to)

IT Electric conductivity and conduction
(of doped poly(ethynylfluorenol), structure in relation to)

IT Polymerization
(of ethynylfluorenol, in presence of **metal complexes**
)

IT 10199-34-5 12092-47-6 13283-01-7, Tungsten hexachloride 13965-03-2 145019-76-7 145019-77-8 **145019-78-9** 145019-79-0
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for polymerization of ethynylfluorenol)

IT 16940-66-2
RL: USES (Uses)
(poly(ethynylfluorenol) doped with, elec. conductivity of)

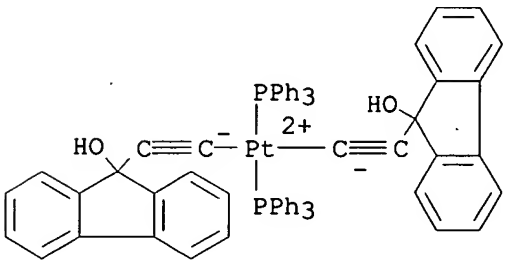
IT 7553-56-2, Iodine, properties 7601-90-3, Perchloric acid, properties 7647-01-0, Hydrochloric acid, properties 7664-93-9, Sulfuric acid, properties 7705-08-0, Ferric chloride, properties 7772-99-8, Tin chloride (SnCl2), properties
RL: PRP (Properties)
(poly(ethynylfluorenol) doped with, elec. conductivity of)

IT 145566-39-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization and elec. conductivity of doped)

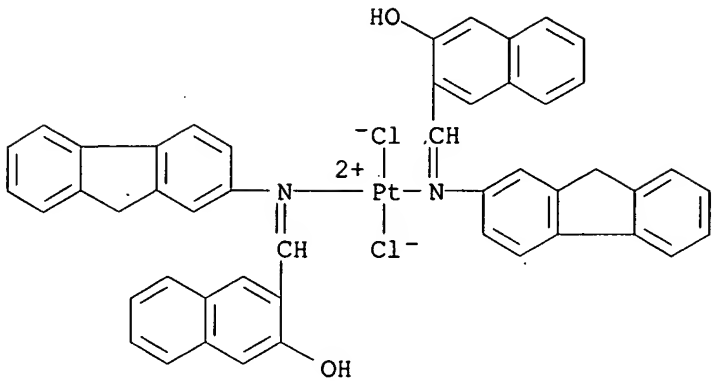
IT **145019-78-9**
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for polymerization of ethynylfluorenol)

RN 145019-78-9 HCAPLUS

CN Platinum, bis[(9-hydroxy-9H-fluoren-9-yl)ethynyl]bis(triphenylphosphine)-(9CI) (CA INDEX NAME)



L39 ANSWER 34 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1988:48073 HCAPLUS
DN 108:48073
TI Preparation and characterization of complexes of 2-hydroxynaphthalidene-2-aminofluorene with cobalt(II), nickel(II), copper(II), platinum(II), palladium(II), thorium(IV) and dioxouranium(VI)
AU Indira, V.; Parameswaran, Geetha
CS Dep. Chem., Univ. Calicut, Malappuram, 673 635, India
SO Indian Journal of Chemistry, Section A: Inorganic, Physical, Theoretical & Analytical (1987), 26A(7), 621-2
CODEN: IJCADU; ISSN: 0376-4710
DT Journal
LA English
AB The preparation and characterization of ML2 (M = Co, Ni, Cu, UO2), M1(LH)2Cl2 (M1 = Pd, Pt) and ThL2(NO3)2 (HL = 2-hydroxynaphthalidene-2-aminofluorene) are described. The complexes are nonelectrolytes in PhNO2. On the basis of anal., IR and electronic spectral, magnetic moment and conductance data, Co, Cu, Pt, and Pd complexes are assigned planar geometry while the Ni complex seems to be a mixture of planar and tetrahedral forms. Th(IV) and uranyl complexes appear to be octahedral.
CC 78-7 (Inorganic Chemicals and Reactions)
ST hydroxynaphthalideneaminofluorene transition **metal complex**; aminofluorene hydroxynaphthalidene transition metal
IT Transition metals, compounds
RL: SPN (Synthetic preparation); PREP (Preparation)
([(hydroxynaphthalidene)amino]fluorene complexes)
IT 581-71-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction of, with aminofluorene in presence of transition metal salts)
IT 153-78-6, 2-Aminofluorene
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation reaction of, with hydroxynaphthaldehyde in presence of transition metal salts)
IT 112317-06-3P 112317-07-4P 112340-80-4P **112340-81-5P**
112340-82-6P 112340-83-7P 112340-84-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT **112340-81-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 112340-81-5 HCAPLUS
CN Platinum, dichlorobis[3-[(9H-fluoren-2-ylimino)methyl]-2-naphthalenol-N]-(9CI) (CA INDEX NAME)



L39 ANSWER 35 OF 35 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1980:506106 HCAPLUS
DN 93:106106
TI Synthesis and characterization of some π-bonded diazo complexes of nickel(0), platinum(0), and ruthenium(0): molecular structure of Ru(CO)2(N2C5Cl4)(P(C6H5)3)2.CH2Cl2
AU Schramm, K. Dahl; Ibers, James A.
CS Dep. Chem., Northwestern Univ., Evanston, IL, 60201, USA
SO Inorganic Chemistry (1980), 19(8), 2441-8
CODEN: INOCAJ; ISSN: 0020-1669
DT Journal
LA English
AB A series of diazo complexes with the compns. M(N2R)L2 (M = Ni, L = tert-BuNC; M = Pt, L = PPh3; N2R = diazotetrahalocyclopentadienes N2C5Cl4 or N2C5Br4) and Ru(CO)2(N2R)(PPh3)2 (N2R = N2C5Cl4, N2C5Br4, 9-diazofluorene, or 2,7-dibromo-9-diazofluorene) were prepared by the direct reaction of the given neutral diazo mol. with an appropriate transition metal system. The complexes were characterized spectroscopically and in the case of Ru(CO)2(N2C5Cl4)(PPh3)2.CH2Cl2 (I) crystallog. In I the tetrachlorodiazocyclopentadiene mol. is coordinated to the Ru atom in the π2 fashion. I is monoclinic, space group C52h-P21/c, with a 14.66(1), b 10.891(7), c 26.73(2) Å and β 94.11(2)°, Z = 4. On the bases of 5728 unique reflections collected at -159° the structure was refined by full-matrix, least-squares techniques to a final value of the conventional R index of 0.057. The entire series of complexes shows a reduction of the N-N stretching frequency from .apprx.2100 cm-1 in the free diazo mols. to .apprx.1500 cm-1 in these complexes. The correspondence of these reduced stretching frequencies strongly suggests that in each of these complexes the diazo mol. has an η2 coordination to the transition metal and may be described as π bound through the N-N multiple bond. Although the complexes Ni(N2R)(PPh3)2 (N2R = N2C5Cl4, N2C5H4) could not be isolated, they were generated in situ from Ni(C2H4)(PPh3)2 and the diazo mol. Reaction of these diazo complexes with di-Et maleate at 100 ° did not produce cyclopropanation products; however with the N2C5H4 complex, an ylide, (triphenylphosphonium)cyclopent adienylidene, was obtained.
CC 78-7 (Inorganic Chemicals and Reactions)
Section cross-reference(s): 75
ST diazo compd **complexation** transition **metal**; nickel pi bonded diazo compd; platinum pi bonded diazo compd; ruthenium pi bonded diazo compd; pi bonded diazo compd metal; structure ruthenium carbonyl

diazocyclopentadiene; cyclopentadiene diazo transition **metal complex**; diazofluorene ruthenium carbonyl complex; fluorene diazo ruthenium carbonyl complex

IT Pi bond
(in diazo compound **complexes** with transition **metals**)

IT Crystal structure
Molecular structure
(of ruthenium carbonyl complex with tetrachlorodiazocyclopentadienes ligand)

IT Carbonyls
RL: RCT (Reactant); RACT (Reactant or reagent)
(ruthenium, with diazo compound ligands)

IT 73531-66-5P
RL: PREP (Preparation)
(formation in toluene solution and thermolysis of, with di-Et maleate)

IT 29473-30-1P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in thermolysis of (diazocyclopentadiene)bis(triphenylphosphine)nickel with di-Et maleate)

IT 73531-62-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and crystal structure of)

IT 35880-54-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with ethylene)

IT 21029-29-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with triphenylphosphine)

IT 35795-47-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reactions of, with diazo compds.)

IT 23777-40-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reactions of, with tetrahalodiazocyclopentadiene)

IT 73531-57-4P 73531-58-5P 73531-59-6P 73531-60-9P 73531-63-2P
73531-64-3P 73531-65-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

IT 1295-35-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with ethylene and triphenylphosphine)

IT 56389-71-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with sodium tetrahydroborate)

IT 29564-99-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tetrahalodiazocyclopentadienes)

IT 141-05-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions of, with nickel diazocyclopentadiene complexes)

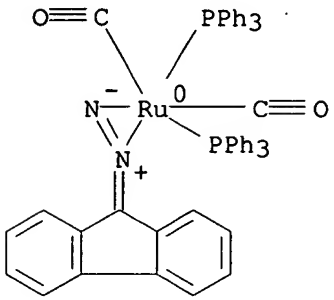
IT 12120-15-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactions of, with tetrahalodiazocyclopentadienes)

IT 73531-67-6
RL: RCT (Reactant); RACT (Reactant or reagent)

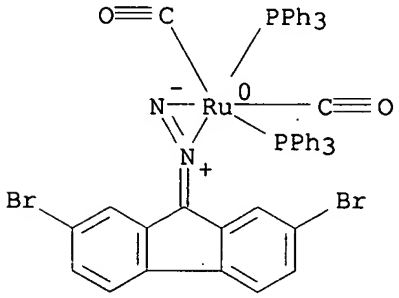
(thermolysis of, with di-Et maleate)

IT **73531-64-3P 73531-65-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 73531-64-3 HCAPLUS
CN Ruthenium, dicarbonyl[9-(η2-diazo)-9H-fluorene]bis(triphenylphosphine)-
(9CI) (CA INDEX NAME)



RN 73531-65-4 HCAPLUS
CN Ruthenium, dicarbonyl[2,7-dibromo-9-(η2-diazo)-9H-
fluorene]bis(triphenylphosphine)- (9CI) (CA INDEX NAME)



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